ARDENT CONSULTING ENGINEERS

EAST MALLING TRUST

PROPOSED RESIDENTIAL DEVELOPMENT: DITTON EDGE (SITE B)

UTILITIES AND SERVICING STATEMENT

REPORT REF. 182600-03
PROJECT NO. 182600
DECEMBER 2018

PROPOSED RESIDENTIAL DEVELOPMENT:
DITTON EDGE (SITE B)

UTILITIES AND SERVICING STATEMENT

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DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	DRAFT	NT	PS	-	OCTOBER 2018
-	FINAL	NT	PS	SJH	DECEMBER 2018

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1.0 EXECUTIVE SUMMARY

1.1. This Utilities and Servicing Statement demonstrates that the proposed development of 300 residential units at the site, Brampton Field, East Malling does not require any off-site diversionary works. Disconnections and removal or diversion of plant are required to the existing electricity and BT in order to facilitate the development.

1.2. It should be noted that enquiries to utilities providers were made for 270 units however, since the utility enquiries were undertaken the masterplan has been revised to incorporate 300 units. For the purpose of any costing exercises, any provisional fees should be pro-rata'd, although this may need to be confirmed via a detailed (C4) application to the utility providers.

Electricity

1.3. It is anticipated that all UK Power Networks (UKPN) connections running through the existing site will be diverted or respected as part of the proposed on-site network. A new sub-station will be required to serve the site.

Gas

1.4. It is not anticipated that Scotia Gas Networks (SGN) apparatus will be affected to facilitate the development proposals. SGN has confirmed reinforcement of their existing infrastructure will be required to serve the site.

Potable Water

1.5. Diversion or lowering of the 3 inch along Kiln Barn Road may be required as part of the access to the site. Southeast water have included a budget quotation for the proposed works.

Foul and Surface Water

1.6. It is not anticipated that any diversions to the Southern Water network are required to serve the foul sewerage from the proposed site. No watercourse or surface water sewers are present in the vicinity of the site. Southern Water have confirmed their network does not have sufficient capacity to serve the site. Liaison with Southern Water is continuing to determine a suitable outfall location for the foul sewerage from the site.

Telecommunications

1.7. BT apparatus is present within the south of the site, serving the existing dwelling. The apparatus will be disconnected as part of the proposed works. BT is obliged to serve the development proposals.

2.0 INTRODUCTION

2.1 Ardent Consulting Engineers (ACE) has been instructed by East Malling Trust to provide Utilities and Servicing advice in relation to a proposed development at land off Kiln Barn Road in Ditton, Kent (also referred to as Ditton Edge) for residential use (hereafter referred to as the site).

2.2 This report supports the outline planning application to Tonbridge and Malling Borough Council (TMBC) for redevelopment of the site.

2.3 The proposed development comprises a redevelopment of the existing pastoral field into a scheme comprising approximately 300 residential units (class C3) and associated infrastructure.

2.4 It should be noted that enquiries to utilities providers were made for 270 units however, since the utility enquiries were undertaken the masterplan has been revised to incorporate 300 units.

2.5 As part of the proposed development, a new singular vehicular access is proposed off Kiln Barn Road.

2.6 It should be noted that elements of this report have been produced on the basis of information received from relevant service companies and as such, ACE cannot accept responsibility for the accuracy of the information received.

2.7 Copies of the correspondence received from Statutory Undertakers have been provided in the appendices of this report for further reference.

3.0 BASELINE PARAMETERS

Site Location

3.1 The site is currently comprises mainly of agricultural fields and occupies a total area of approximately 11.58ha, which is located approximately 5.5km south east of Maidstone, with Ordnance Survey grid co-ordinates of the site at approximately 571024mE, 157671mN.

3.2 Refer to **Figure 3-1** below for the site location.

Figure 3-1: Site Location Plan

3.3 The site is bounded by residential estates to the north, predominantly backing onto the site. There is a windbreak of trees running along the eastern part of the north boundary, screening the site from the existing residential estates adjacent to Kiln Barn Road.

3.4 Kiln Barn Road borders the site to the east and agricultural land borders the site to the south and west.

Existing Land Use

3.5 The site currently comprises mainly of agricultural fields.

3.6 The existing site is accessed directly from Kiln Barn Road from the south east.

3.7 The site slopes from the west to the north at a level of 22.75m AOD to 17.95m AOD respectively, over a distance of 160m resulting in a gradient of 1 in 71.

3.8 A copy of the Topographical Survey is including in **Appendix A**.

4.0 DEVELOPMENT PROPOSALS

4.1 It is proposed to redevelop the site to provide a residential scheme of circa 300 units, together with associated infrastructure and amenity space.

4.2 As part of the proposed development, a new singular vehicular access is proposed off Kiln Barn Road. The existing route of the public right of way would be retained and enhanced to provide a pedestrian and cycle connection to the surrounding area.

4.3 **Figure 4-1** below shows an extract of the proposed development masterplan.

4.4 The site master plan has been provided by Savills and is included in **Appendix A**.

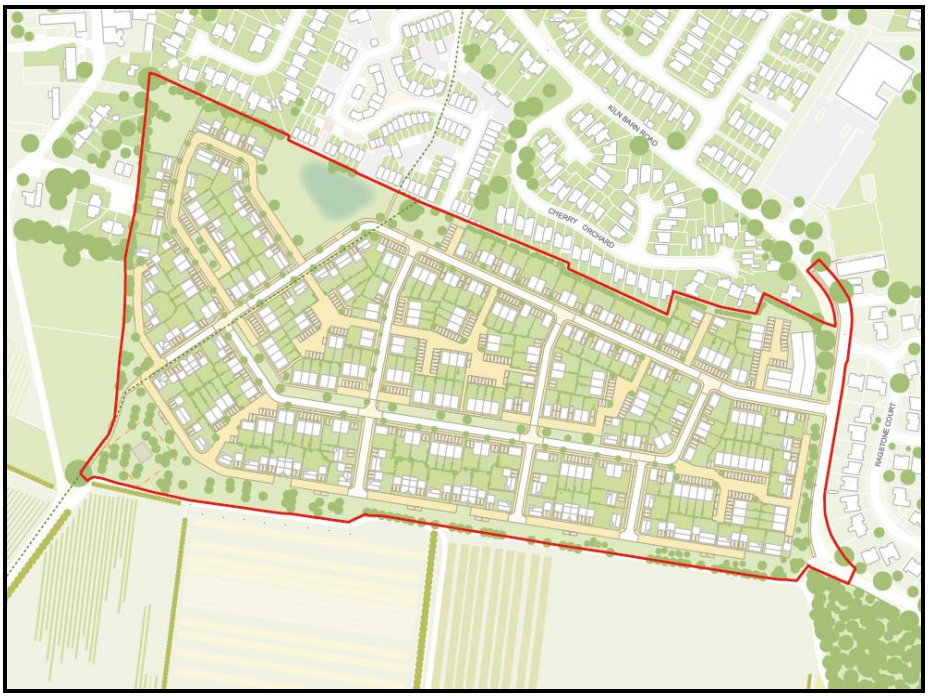

Figure 4-1: Proposed Development Masterplan

5.0 UTILITY SERVICE PROVISION

Introduction

5.1 All relevant Statutory Undertakers have been consulted in relation to the proposed development. Each Statutory Undertaker, with known plant in the region, has been contacted and requested to provide details of:

- Existing assets in the area;
- The extent of any necessary diversion, abandonment or protection works to facilitate the development;
- The requirement for any off-site reinforcement works to meet the peak load demand generated by the development proposals; and
- The potential point of connection to the existing supply distribution network.

Approximate Utility Demands

5.2 Anticipated approximate utility demands for the development (based on 270 residential units) for gas, portable water and foul water were provided to utility providers, derived using BSRIA Guidance Documents and common benchmarks.

5.3 The following approximate loadings in **Table 5-1** have been used to inform the overall site demands. It should be noted that these figures are given prior to the relevant utility companies applying their own diversification adjustments:

Land Use	**Electricity Peak** mVA	**Gas**		**Potable Water l/sec**	**Foul Water** l/sec
		Peak mW	**Annual** kWh		
270 Residential dwellings	1.60	2.82	2,894,077.00	7.30	12.50

Table 5-1: Approximate Utility Demands

Statutory Undertakers Unaffected by the Proposals

5.4 It is understood that the following Statutory Undertakers do not have assets in the immediate vicinity of the proposed development; (see **Appendix B**):

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

6.0 ELECTRICITY

UK Power Networks

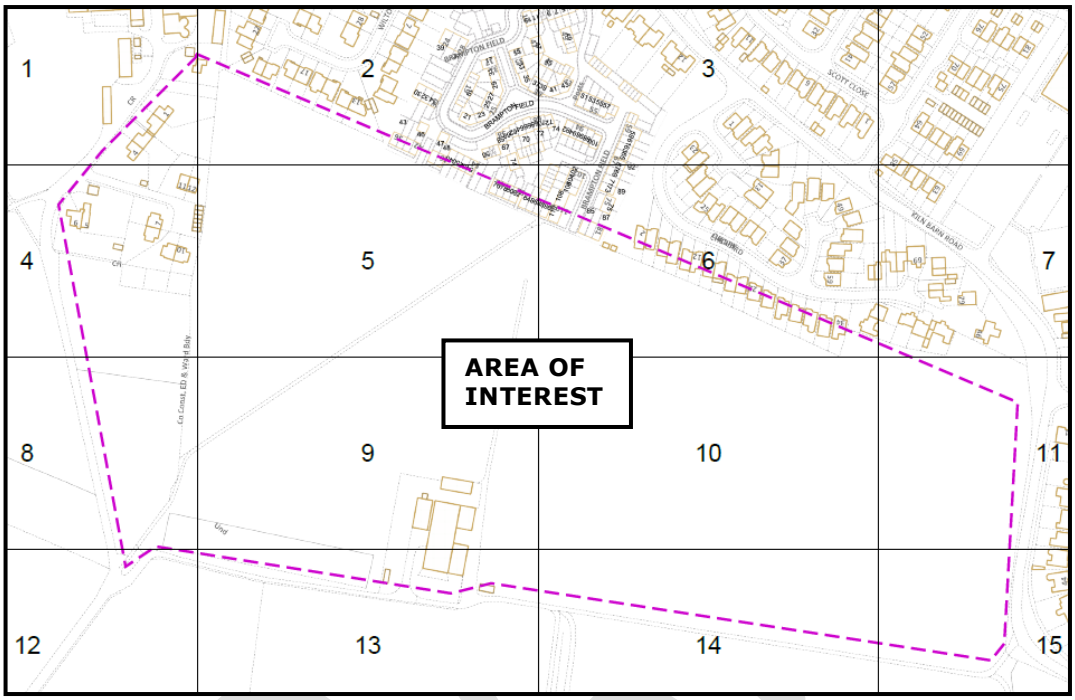

Figure 6-1: UKPN Asset Mapping

6.1 **Figure 6-1** shows the area UKPN have covered in their search. The mapping including in **Appendix C** indicates that there are two existing substations to the north east of the site boundary, these substations are assumed to serve the residential development to the north of the site.

6.2 The asset plans indicate electrical 6.6kV apparatus entering the site boundary from the south west and heading northwards before exiting the site at Brampton Fields.

6.3 It is anticipated that the UKPN apparatus, within the site boundary crossing the site will be diverted. A diversion enquiry was issued to UKPN to determine the extent of diversionary works required.

6.4 UKPN has responded with a budget estimate of £450,000 (exclusive if VAT) for the connection of 270 residential units with a maximum onsite demand of 1.6MVA. UKPN also gave the additional sum of £60,000 if diversionary works for the high voltage cable that crosses

the site become necessary. The load capacity within the area is limited, therefore any quotation within this area may be subject to interactivity. This budget quotation is inclusive of a new enclosed substation on the development site.

6.5 Correspondence with UKPN is included in **Appendix C**.

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7.0 GAS SUPPLY

Scotia Gas Networks (SGN)

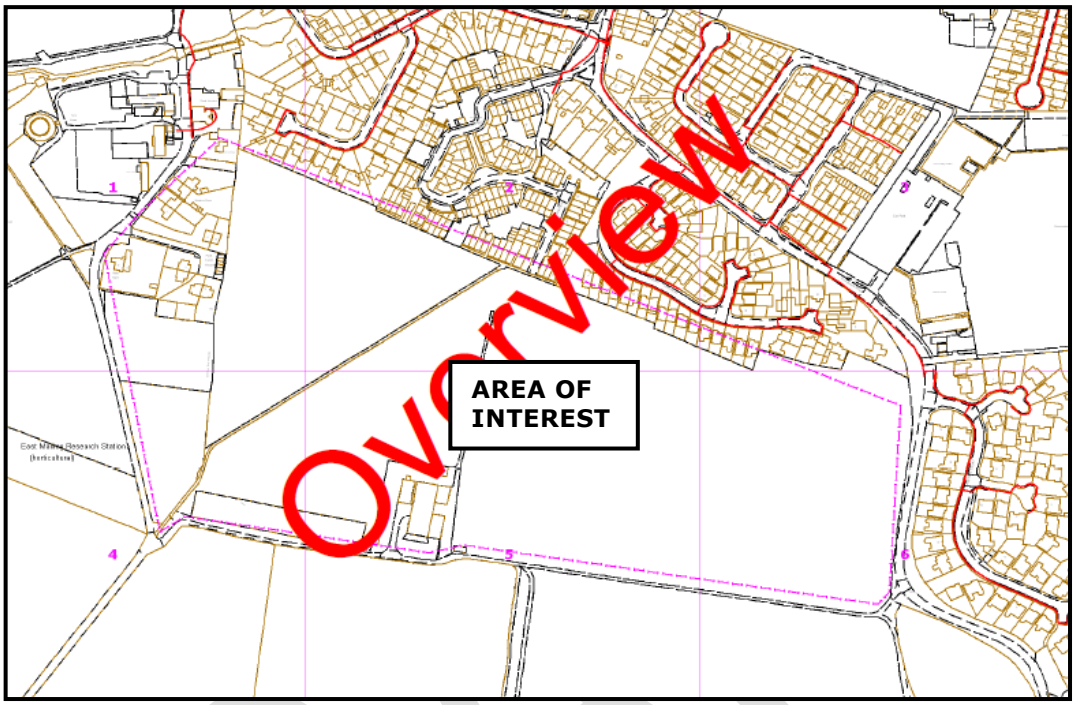


Figure 7-1: Scotia Gas Networks Asset Mapping

7.1 **Figure 7-1** above and the correspondence in **Appendix D** shows that there are no SGN mains within the site boundary. The closest Low Pressure (LP) gas main to the site is located to the north (indicated as red lines in the above figure) assumed to serve the residential properties on Cherry Orchard.

7.2 It is not anticipated that the SGN LP apparatus will need to be diverted to facilitate the development proposals.

7.3 A capacity enquiry was issued to SGN to determine whether they have sufficient spare capacity within the existing network to serve the development proposals. SGN have confirmed that reinforcement of the existing network will be required to accommodate this development.

7.4 SGN will carry out all the necessary excavation and reinstatement work in public areas. The budget indication is £190,00.00 (inc VAT)

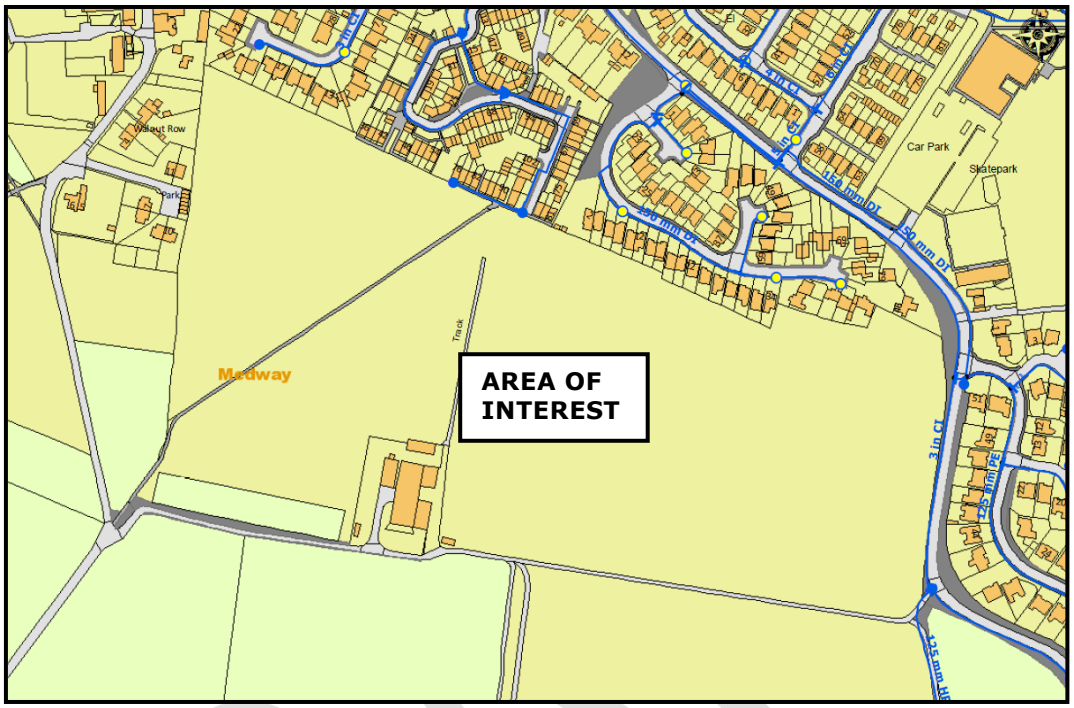
based upon an hourly load of 15,360.00 kW and an annual quantity of 5,405,200.00 kWh.

7.5 SGN correspondence is included in **Appendix D.**

DRAFT

8.0 POTABLE WATER

South East Water



8.1 South East Water asset map shows a 3 inch potable water main running along the eastern site boundary along Kiln Barn Road. There is also a main to the north of the site, assumed to serve the residential development in Cherry Orchard. It is anticipated that the 3 inch water main in the footpath of Kiln Barn Road may need to be lowered or diverted as part of the access to the site.

8.2 A pre-development enquiry has been submitted to South East Water for a budget quotation to serve the proposed site. A response was received on the 26th November 2018, and have advised that the statutory minimum levels of service for a domestic supply is 9 l/m (0.5 l/s) at a pressure of 10m.H. (~1bar) at the situated at the highway boundary. South East water recommend that all systems are designed to cope with this.

8.3 The budget quotation for the proposed works is expected to cost is quoted as £125.00 per metre. The standard connections are quoted as £498.00 (A-type) each x 270 units. Also, an infrastructure change of £566.00 per connection x 270 units. It is to be noted that

under the new pricing structure, all reinforcement works will now be subsidised through infrastructure changes. Offsite reinforcement works are no longer site specific.

8.4 The budget figures quoted above have been prepared on the assumptions that there are no Health and Safety hazards arising from either the present site conditions or any which may arise as a result to activities of the developer, agents or contractors.

8.5 South East Water is obliged to supply the proposed development with potable water. Please find correspondence included in **Appendix E** of this report.

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9.0 FOUL AND SURFACE WATER DRAINAGE

Southern Water

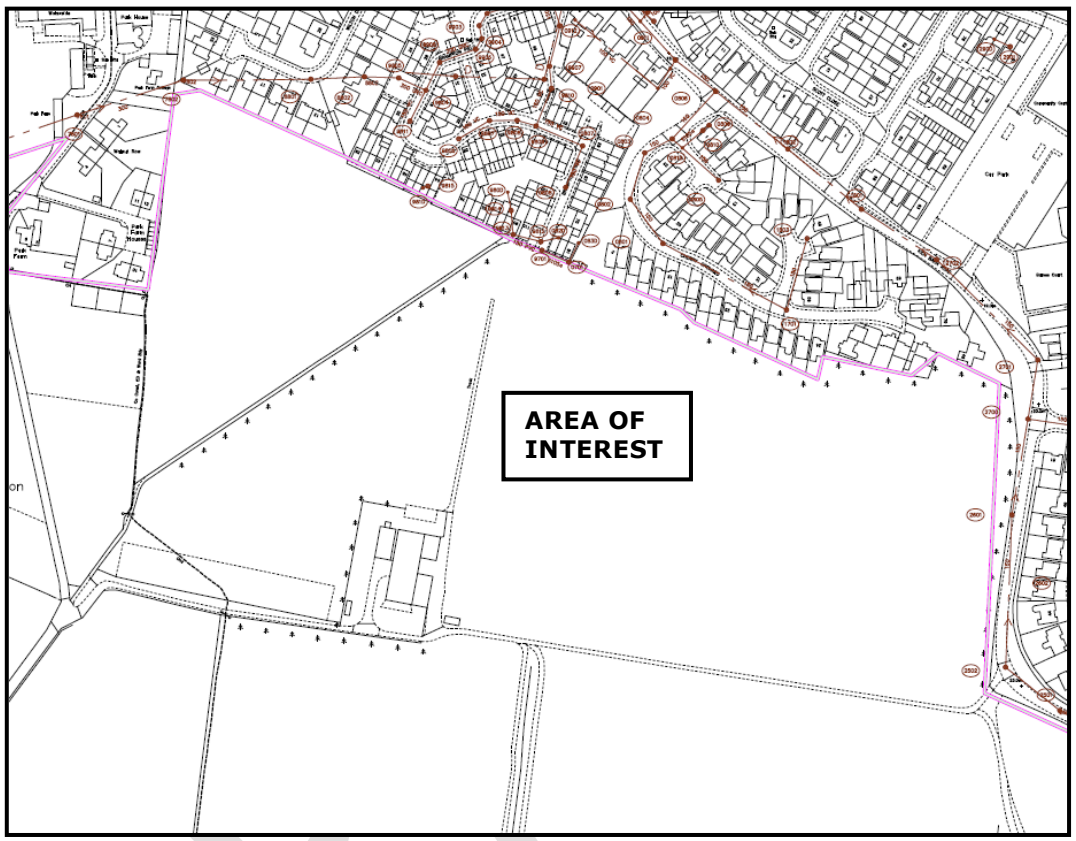

Figure 9-1: Southern Water Asset Mapping (Wastewater)

9.1 **Figure 9-1** above and the correspondence in Appendix shows that there are no Southern Water sewers within the site boundary. There are foul sewers in the highways to the north and east of the site. The apparatus in Kiln Barn Road is proposed as the point of connection for the proposed development.

9.2 There are no surface water sewers within the vicinity of the site.

9.3 A pre-development capacity enquiry was submitted to Southern Water on 18 October 2018. A response has been received on the 15 November 2018 stating there is no capacity in the nearby system to serve the site.

9.4 Southern Water suggested the nearest point to discharge foul sewerage from the site is Ditton WWTW, therefore, discussions are

ongoing to determine a viable alternative to discharge foul sewerage from the site.

9.5 Correspondence with Southern Water is included in **Appendix F**.

DRAFT

10.0 TELECOMS

BT Openreach

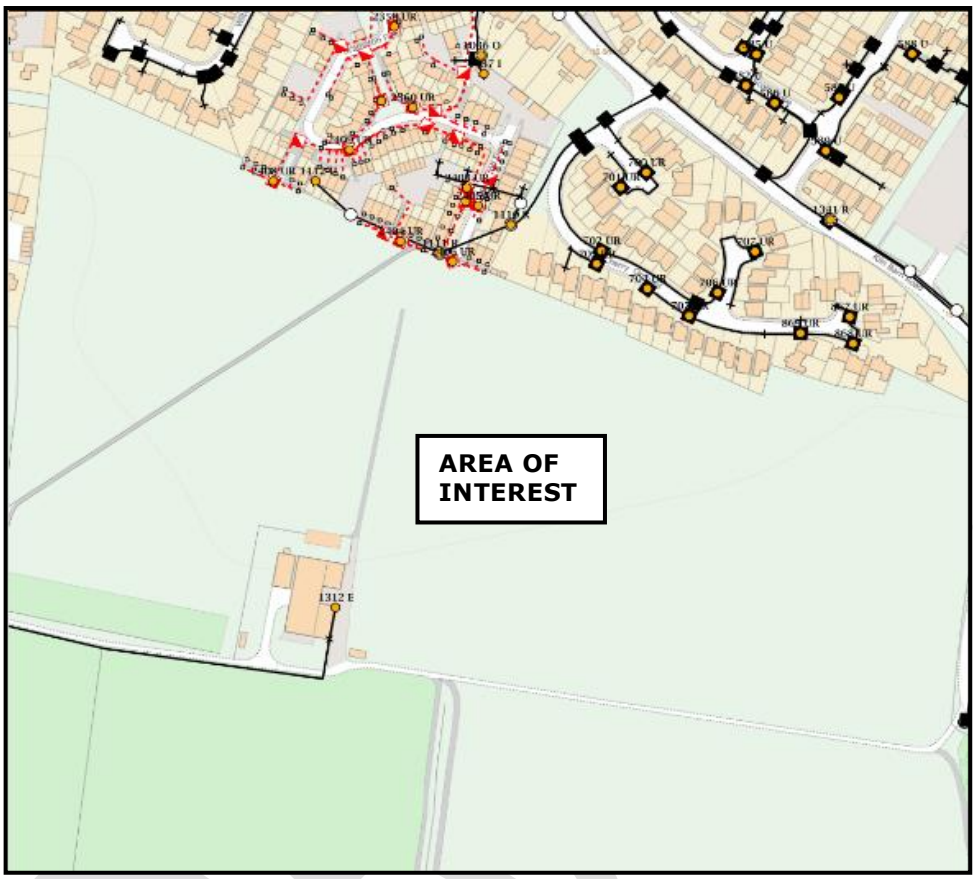

Figure 10-1: BT Openreach Asset Mapping

10.1 An extract from BT Openreach asset mapping, in **Figure 10-1** above, indicates that there are over ground and underground plant on the northern site boundary. The existing apparatus serving the existing dwelling to the south of the site will be disconnecting as part of the development proposals.

10.2 BT Openreach is obliged to supply the proposed development. Once a planning consent has been granted, detailed costs and a specification of works will be provided by BT Openreach Newsites.

10.3 Correspondence with BT Openreach is included in **Appendix G**.

Appendix A

Masterplan and Schedule of Accommodation

REV	DATE	INITIAL

Site B Red Line Boundary
(11.58 Ha)

Public Right of Way to be Retained

N

0 50m 100m
SCALE 1:2500

Project Name
East Malling Trust

Drawing Title
Site B: Red Line Boundary
(Illustrative Masterplan)

Job no. MSBL377057
Dwg no. EMT - B - 02
Rev. A
Drawn by. M.L.
Date. 05.12.2018
Scale. 1:2,500 @A3
Checked by. A.D.

URBAN DESIGN STUDIO
Southampton:London:Oxford
Cambridge:Birmingham
Savills.com/urbandesign

savills

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570700E
570800E
570900E
571000E
571100E
571200E
571300E

157900N
157800N
157700N
157600N
157500N
157400N

N

Station Information:

Station	Easting (m)	Northing (m)	Level (m)
GH1	570199.882	157743.366	19.574
GH2	570190.670	157818.298	18.725
GH3	570180.351	157839.471	19.279
GH4	570149.179	157842.023	19.766
GH5	570138.833	157859.881	20.879
GH6	570113.297	157871.619	20.887
GH7	570063.709	157738.390	20.393
GH8	570080.813	157585.896	21.979
GH9	570118.211	157458.801	24.639
GH10	570167.471	157252.501	29.531
GH11	570188.634	157161.096	30.358
GH12	570224.372	157168.630	29.397
GH13	570253.415	157160.032	29.240
GH14	570353.879	157476.447	22.055
GH15	570570.150	157393.665	24.271
GH16	570725.053	157600.648	20.870
GH17	570934.162	157576.195	21.184
GH18	571244.304	157532.905	23.478
GH19	571254.068	157553.488	22.677
GH20	571259.024	157566.089	22.147
GH21	571280.489	157724.786	19.985

All station points are PK nails.

OS Note:

Some services may have been omitted due to parked vehicles. The Ordnance Survey tile is to be used as a guide only.

OS Buildings *Surveyed Buildings*

This survey has been orientated to the Ordnance Survey (O.S) National Grid OSGB36(15) via Global Navigation Satellite Systems (GNSS) and the O.S. Active Network (OS Net).

A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN15GB & OSGM15GB transformation models.

The survey has been correlated to this point and a further one or more OSGB36 (15) points established to create a true O.S. bearing for angle orientation.

No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.

Please refer to Survey Station Table to enable establishment of the on-site grid and datum.

Legend:

Buildings
Hedge
Kerbs Raised or ramped / low marking
Cross kerb
Dished kerb
Top of bank
Bottom of bank
Station and Name
100.000 Station Level
Tree / Bush / Sapling
Area of Undergrowth
Woodland
R: Ridge Level
E: Eaves Level
F: Flat Roof Level
Gate

Fence types:
HW Hoarding
HR Iron Railings
WM Wire Mesh
PVR Post & Rail
PW Post & Wire
CL Chain Link
WP Wooden Panels
CB Close Boarded
SP Steel Palisade

Overhead Cable
Concrete edge
Grass verge
Carpet/Overhang
Gravel
Bottom of bank
Top of bank

IC Inspection chamber
Pipe Pipe invert
Gy Gully
Rg Rock gully
Dp Down pipe
Pipe Pipe above ground
MH Manhole
WL Water level
Fl Flood light
Lp Lamp post
Tp Telegraph post
Ep Electricity post
Tr Traffic light
Bus Bus stop
Sv Stop valve
St Stop tap
Er Earth rod
Wm Water meter
Gas Gas valve
Av Air valve
ICU Unidentified inspection
Wo Wash out
Re Building eye
BB Bellena beacon
CTV Cable tv
Mkr Marker post
Gmkr Gas marker post
Sv Earth
Fh Fire hydrant

Bo Bollard
IB Illuminated bollard
Bin Rubbish bin
Vp Vent pipe
GI Ground light
Lbox Letter box
Stmp Tree Stump
Sty Stile
IFL Internal floor level
THL Threshold level
Sp Sign post
TH Trashole
BH Borehole
ELC Electric
BT British Telecom
Ctrbx Control box
TT Tactile
BP Brick paved
CPS Concrete paving slabs
CVR Cover
RWall Retaining wall
BS Bus Shelter
TCL Tree canopy level
G Girth
MG Multi girth
IC Inspection chamber
CL Cover level
IL Invert level
UTL Unable to fit

Rev.	Date	Description	Drawn	Ch. Ref.

greenhatch group

- Topographical Surveys
- Site Engineering
- Utility / CCTV Surveys
- Measured Building Surveys
- 3D Laser Scanning
- Revit & BIM Models

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Newcastle: 24 Riverside Studios, Amethyst Road, Newcastle Bus. Park, Newcastle upon Tyne, NE4 7YL t. (01912) 736391

London: 27, Cornwall Terrace Mews, Regents Park, London, NW1 5LL t. (02072) 241806

CLIENT
Ardent Consulting Engineers

PROJECT
Kiln Barn Road (Site B), Ditton, Kent ME20 6AJ

TITLE
Topographical Survey

SCALE	DATE
A1@ 1: 1000	10.08.18
DRAWN: SS\JS	QUALITY REF: GH3443

Level datum	See note
Grid orientation	See note
Job number	31057
Drawing No.	Rev.
31057_T	0

Comments
This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.

All dimensions should be checked on site prior to design and construction.

Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

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Appendix B

Linesearch before U dig Correspondence

Enquiry Confirmation

LSBUD Ref: 13409110

Date of enquiry: 01/08/2018
Time of enquiry: 12:05

Enquirer

Name	Miss Naomi Thamba	Phone	01158532980
Company	Ardent Consulting Engineers	Mobile	Not Supplied
Address	Suite 108 2 King Street Nottingham Nottinghamshire NG1 2AS		
Email	nthamba@ardent-ce.co.uk		

Enquiry Details

Scheme/Reference	182600 SITE B		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	23/08/2018	Work type	Housing
End date	20/09/2018	Site size	126740 metres square
Searched location	XY= 571008, 157680	Work type buffer*	25 metres
Confirmed location	570901 157753		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works	Not Supplied		

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

Site Map

V3.3.6 Contains Ordnance Survey data © Crown copyright and database right 2018

Enquiry Confirmation

LSBUD Ref: 13409110

Date of enquiry: 01/08/2018
Time of enquiry: 12:05

Asset Owners

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

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

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

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

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

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
   a. These LSBUD Members will either:
      i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.

      ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.

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

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

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

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

Enquiry Confirmation

LSBUD Ref: 13409110

Date of enquiry: 01/08/2018
Time of enquiry: 12:05

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**
Fulcrum Pipelines Limited	03330146455	0800111999	Await response
SGN	08009121722	0800111999	Await response
UK Power Networks	08000565866	08000565866	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	BOC Limited (A Member of the Linde Group)	BP Exploration Operating Company Limited
BPA	Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN
Cemex	Centrica Storage Ltd	CLH Pipeline System Ltd
Concept Solutions People Ltd	ConocoPhillips (UK) Ltd	DIO (MOD Abandoned Pipelines)
E.ON UK CHP Limited	EirGrid	Electricity North West Limited
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESP Utilities Group	ESSAR	Esso Petroleum Company Limited
Gamma	Gateshead Energy Company	Gigaclear PLC
Gtt	Hafren Dyfrdwy	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	Northumbrian Water Group
NPower CHP Pipelines	Oikos Storage Limited	Ørsted
Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos	Phillips 66
Premier Transmission Ltd (SNIP)	Prysmian Cables & Systems Ltd (c/o Western Link)	Redundant Pipelines - LPDA
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	Scottish Power Generation
Seabank Power Ltd	Severn Trent (Chester area only)	Shell (St Fergus to Mossmorran)
Shell Pipelines	SSE (Peterhead Power Station)	Tata Communications (c/o JSM Construction Ltd)
Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines	Transmission Capital
Uniper UK Ltd	Vattenfall	Veolia ES SELCHP Limited
Western Power Distribution	Westminster City Council	Wingas Storage UK Ltd
Zayo Group UK Ltd c/o JSM Group Ltd		

Enquiry Confirmation

LSBUD Ref: 13409110

Date of enquiry: 01/08/2018
Time of enquiry: 12:05

The following Non-LSBUD Members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	**Preferred contact method**	**Phone**	**Status**
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified
South East Water	water.maps@southeastwater.co.uk	0333 000 0059	Not Notified
Southern Water	searches@southernwater.co.uk	08452700212	Not Notified
Teliasonera	telenttelia.plantenquiries@telent.com	0800526015	Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://plant.interoute.com/plant-enquiries/	01992532100	Not Notified

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The results of this Enquiry are personal to the Enquirer and shall not be shared with or relied upon by any other party. The asset information on which the Enquiry results are based has been provided by LSBUD Members, therefore LinesearchbeforeUdig will provide no guarantee that such information is accurate or reliable nor does it monitor such asset information for accuracy and reliability going forward. There may also be asset owners which do not participate in the enquiry service operated by LinesearchbeforeUdig, including but not exclusively those set out above. Therefore, LinesearchbeforeUdig cannot make any representation or give any guarantee or warranty as to the completeness of the information contained in the enquiry results or accept any responsibility for the accuracy of the mapping images used. LinesearchbeforeUdig and its employees, agents and consultants accept no liability (save that nothing in this Enquiry Confirmation excludes or limits our liability for death or personal injury arising from our negligence, or our fraud or fraudulent misrepresentation, or any other liability that cannot be excluded or limited by English law) arising in respect thereof or in any other way for errors or omissions including responsibility to any person by reason of negligence.

Appendix C

UK Power Networks Correspondence

Network Records NetMAP Symbols Booklet - South East England

Version 1.2

Released October 2010

Always check with your local Network Records office or the UK Power Networks server to ensure that you are using the most up to date copy of this booklet - Tel: 08000 565866

Index:-

Page no:		Contents:
1	.....	Guidance notes.
2	……..	The area covered by this guide.
3	1:500 (& 1:1250) view	
	…….	Scenery.
4	…….	Scenery (UK Power Networks use only).
7	…….	Primary distribution line route (EHV).
8	…….	Secondary distribution cables (HV/LV).
9	…….	Secondary distribution cable terminology.
12	…….	Cable ducts.
13	…….	Poles.
14	…….	EHV, HV and LV sites.
15	…….	Joints.
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17	…….	Miscellaneous.
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19	…….	Abbreviations.
20	…….	Cable phasing.
21	…….	Operational status colours.
22	1:2500 view (UK Power Networks use only).	
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23	…….	Primary distribution line route.
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25	…….	Primary and secondary sites.
27	…….	Switch types.
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29	…….	Secondary distribution cables.
30	…….	Primary and secondary sites.

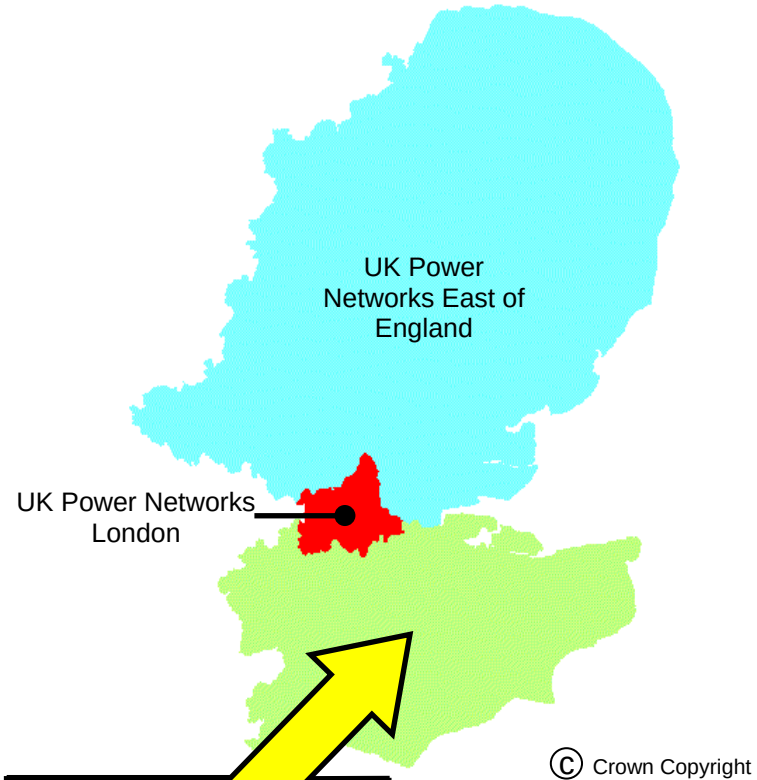
Guidance notes.

Important notice:
If you do not understand the NetMAP record that you are using, please contact the UK Power Networks Network Records team for guidance on **Tel: 08000 565866.**

- The position of apparatus shown on NetMAP is believed to be correct, but the original landmarks may have altered since the apparatus was installed.
- It must be assumed that there is at least one service to each property, lamp column, street sign etc.
- Third party cables are not usually shown.
- When viewed in black and white, the line-style indicates the voltage.
- All LV cables are 4 core and all HV cables are 3 core – unless otherwise stated.
- All cables are copper – unless otherwise stated.

Plan Provision Team
and CableWatch
Fore Hamlet
Ipswich
Suffolk IP3 8AA
Tel: 08000 565866

The area covered by this guide:



UK Power Networks South East England. This is the only area where this booklet applies

1:500 (& 1:1250) view

Scenery

NetMAP system	Description
	Secondary buildings and fence lines
	Building line
	Kerb line
	UK Power Networks / SPN licence boundary (not visible unless selected)

Scenery for UK Power Networks use only - boxed in red

NetMAP system	Description
Inset Network – Contact xxxx IDNO for further information	Area of inset network - not the asset of UK Power Networks (only visible to UK Power Networks and their immediate contractors)
	Proposed Cross Rail route (only visible to UK Power Networks and their immediate contractors)
	High pressure pipelines in the general vicinity (only visible to UK Power Networks and their immediate contractors)

Note: Pipelines are only viewable on NetMAP by UK Power Networks staff and their immediate contractors. Do not carry out any excavation without consent from the relevant agency - legally protected high pressure petroleum products pipeline route in the general vicinity - consult www.linewatch.co.uk for contacts and guidance. Pipeline contact numbers can also be found on the intranet – out of hours, contact our Control Centre.

	Water - surface water (only visible to UK Power Networks and their immediate contractors)
	Water - Source Protection Zone 1 (only visible to UK Power Networks and their immediate contractors)
	Water - Source Protection Zone 2 (only visible to UK Power Networks and their immediate contractors)
	Water - Source Protection Zone 3 (only visible to UK Power Networks and their immediate contractors)

section continued on next page

Scenery for UK Power Networks use only - boxed in red

NetMAP system	Description
	Historical - Scheduled Monuments (only visible to UK Power Networks and their immediate contractors)
	Historical - Parks and Gardens (only visible to UK Power Networks and their immediate contractors)
	Historical - Areas of Archaeological Potential (AAP) (only visible to UK Power Networks and their Immediate contractors)
	Nature - Ramsar Wetlands of International Importance (only visible to UK Power Networks and their immediate contractors)
	Nature - Special Area of Conservation (SAC) (only visible to UK Power Networks and their immediate contractors)
	Nature - Special Protected Area (SPA) (only visible to UK Power Networks and their immediate contractors)
	Nature - Site of Special and Scientific Interest (SSSI) (only visible to UK Power Networks and their immediate contractors)

section continued on next page

Scenery for UK Power Networks use only - boxed in red

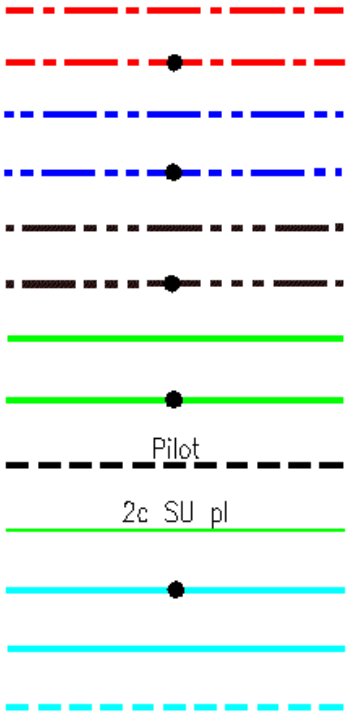
NetMAP system	Description
	Nature - Local Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Nature - National Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Nature - Area of Outstanding Natural Beauty (AONB) (only visible to UK Power Networks and their immediate contractors)
	Nature - National Park (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - very high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - medium sensitivity (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - low sensitivity (only visible to UK Power Networks and their immediate contractors)

Primary distribution line route (1:500 view)

NetMAP system	Description
	275–400kV National Grid route 132kV cable route 33kV cable route

Approximate routes only – see seperate record

Secondary distribution cables (1:500 view)

NetMAP system	Description
	11kV underground cable 11kV overhead line 6.6kV underground cable 6.6kV overhead line <6.6kV underground cable <6.6kV overhead line LV underground cable LV overhead line Pilot cable LV street lighting (pl) Service overhead line Service underground Logical service connection

Secondary distribution cable terminology (1:500 view)

HV underground

sta	PILCSTA (paper insulated lead covered steel tape armour)
(no text)	PILCSWA (paper insulated lead covered steel wire armour)
XLPE	XLPE (cross linked polyethylene) insulation
bcs	CAS (corrugated aluminium sheath) belted construction
scs	CAS (corrugated aluminium sheath) with screened cores
ua	PILC (paper insulated lead covered) unarmoured
c/c	Concentric cores
Poly	Poly (polyethylene) insulation
BOTES	BOTES – Board of Trade earth screen
of	Oil filled
33 kV design	Constructed to 33 kV specification
ax	Triplex with aluminium conductor
cx	Triplex with copper conductor

HV overhead

(no text)	Bare open wire
pvc	Open wire PVC covered
cat	ABC (aerial bundled or bunched conductor) with supporting strain wire
+ew	Open wire with extra earth conductor
ccc	Compact covered conductor

Overhead line materials

sca	Steel cored aluminium
cc	Cadmium copper
st	Steel
sil	Silmalec
ccs	Copper covered steel
cpl	Compactal

section continued on next page

Secondary distribution cable terminology continued

(1:500 view)

LV underground mains and services

W	Waveform
We	Waveform with seperate earth wire
H	Hybrid – copper neutral with aluminium phase conductor
He	Hybrid with seperate earth wire
ua	PILC (paper insulated lead covered) unarmoured
(no text)	PILC (paper insulated lead covered) with/without armour
XLPE	XLPE (cross linked polyethylene) insulation
DISTRI	PISTA (paper insulated steel tape armour) 4c SAC (solid aluminium core) with lead covered neutral
c/c	Concentric cores
s/c	Split concentric with seperated neutral and earth wires
CONSAC	Paper insulated aluminium sheathed 3 core with solid aluminium cores
vb	Vulcanised bitumen/rubber insulation
Capothene	Capothene core insulation
tby	Tape braid and yarn
swa	PILSWA (paper insulated lead steel wire armour)
sac	PILSTA (paper insulated steel tape armour) solid aluminium core
Solidal	4 sector SAC with solid aluminium cores
LSF	Low smoke and fume (orange cable)
Trough	Cable laid in filled trough

LV overhead mains and services

(no text)	Bare open wire
ABC	Aerial bundled (or bunched) conductor
cat	ABC (aerial bundled or bunched conductor) with supporting strain wire
pvc	PVC covered open wire
c/c	Concentric cores
H	Hybrid – copper neutral with aluminium phase conductor
ue	Under eaves – hessian covered lead cable
vir	Vulcanised India rubber insulation

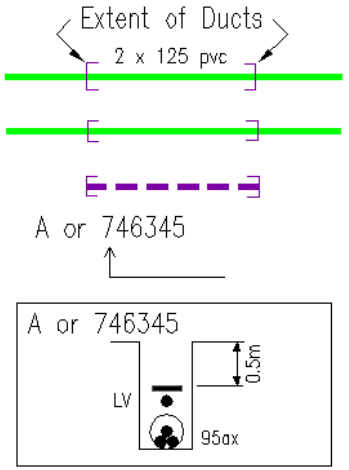
section continued on next page

Secondary distribution cable terminology continued
(1:500 view)

Various annotation

.1	Cable size (sq. inches)
185	Cable size (sq. millimetres)
a	Aluminium
ITC	Instrument traced cable or ITC - cable traced electronically using Cable Avoidance Tool (CAT) or similar

Cable ducts **(1:500 view)**

NetMAP system	Description
	Duct 2 way Duct 1 way (no text) Spare duct Cross section arrow Cross section showing: duct, tile depth, tile, single LV cable and HV Triplex cable

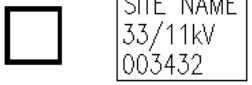
Duct materials

(no text)	Earthenware
pvc	PVC
st	Steel
asb	Asbestos
fbr	Fibre
wi	Iron
cp	Concrete pipe
t/e	Trenchless excavation

Poles (1:500 view)

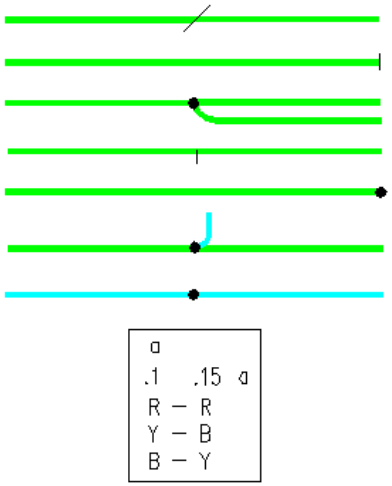
NetMAP system	Description
(S) 999999	Section pole Pole number (unique)
	Single leg
	H pole
	3 member
	4 member
	Strut
	Pole support (stay)
	Flying stay
	Tower 33kV to 400kV

EHV, HV and LV sites (1:500 view)

NetMAP system	Description
Note: EHV and HV sites are identified by a unique 6 digit number (SPENS)	
	Ground mounted primary substation showing name, transformer voltage and SPENS number
	Pole mounted substation showing name and SPENS number
	Ground mounted substation showing name and SPENS number
	2 way link box
	4 way link box
	Link box without busbar
	(options similar to 1:2500 view) LV distribution pillar
	Voltage regulator
	Voltage balancer
	Open point
	Open point – out of phase
	Overhead open point

Note: For LV linking, use the 1:2500 view

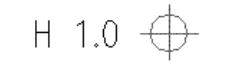
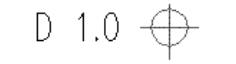
Joints (1:500 view)

NetMAP system	Description
	Straight (same for HV) Pot end (same for HV) Branch (same for HV) Sleeve repair Capped end Service to LV main Under eaves service Jointing phase drawing

Street furniture (1:500 view)

NetMAP system	Description
        	Pole mounted street light Street light Zebra crossing Road sign Bollard Pelican crossing Traffic controller Advertising sign Amplifier station Control cubicle Text displayed/description Pay and display Bus shelter TBS Kiosk Water meter PL pillar TCB Unknown

Miscellaneous (1:500 view)

NetMAP system	Description
	Underground chamber or draw pit
	Earth conductor
	Earth pin
	Height marker
	Depth marker
	Supply point
	Missing data in or near this location
	Contaminated land reference

Connectivity (1:500 view)

NetMAP system	Description
	Edge node
	Node
	Connector Pole termination (nothing visible unless selected)

Edge nodes, nodes, connectors and pole termination joints may not appear on screen unless turned on and selected.

Abbreviations (1:500 view)

NetMAP system	Description
NR	No record
SU	Size unknown
AB	Abandoned
(M)	PME available
VO5	Year LV linking verified
MS	Milestone
MP	Marker post
pmt	Pole mounted transformer
pl	Public lighting
TBS	Temporary builder's supply
TCB	Telephone call box
CET	Cable electronically traced
IT	Instrument traced (same as CET)
CAT	Cable avoidance tool (same as CET)
+sl	Street lighting
+sw	Switch wire
2c	2 core
PESL	Public Electricity Supply License
Added	Supplied by SPN
Excluded	Not supplied by SPN
IIP	Assumed open point
VSxxxx	Vacant site
CB	Callender box

Cable phasing (1:500 view)

Old core colours	Shown on map		New core colours
Neutral	Neutral	Neutral	Blue
Red	R	L1	Brown
Yellow	Y	L2	Black
Blue	B	L3	Grey

Note:- Scott is a different phasing system

Operational status colours (1:500 view)

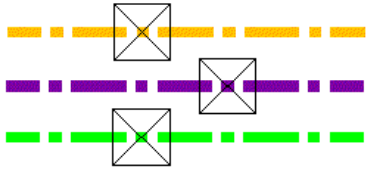
PROPOSAL	Symbols and cables appear in ORANGE
OUT OF SERVICE	Cable and joints appear in BLACK
ABANDONED	Cables and joints appear in GREY

1:2500 view - for UK Power Networks use only - boxed red

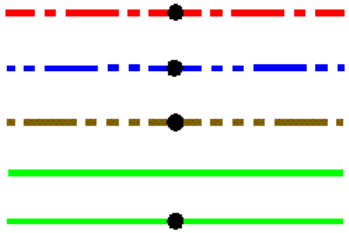
Notes

1. No underground HV cables are shown on the 1:2500 view
2. Poles and joint details are similar to the 1:500 view
3. For cable/line information refer to the 1:500 view

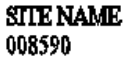
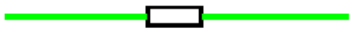
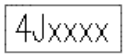
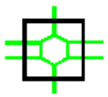
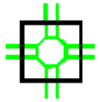
Primary distribution line route (1:2500 view)

NetMAP system	Description
	275–400kV National Grid route 132kV cable route 33kV cable route

Secondary distribution cables (1:2500 view)

NetMAP system	Description
	11kV overhead line 6.6kV overhead line <6.6kV overhead line LV underground cable LV overhead line

Primary and secondary sites (1:2500 view)

NetMAP system	Description
Note: EHV and HV sites are identified by a unique 6 digit number (SPENS)	
	Ground mounted substation showing capacity, phase, name and SPENS number
	Pole mounted substation showing capacity, phase, name and SPENS number
	Primary substation showing name and SPENS number (no site shown)
	2 way link box
	4 way link box
	Link box identifier
	4 way link box without busbar
	6 way link box without busbar
	8 way link box without busbar

section continued on next page

Primary and secondary sites continued (1:2500 view)

NetMAP system	Description
	LV distribution pillar
	Voltage regulator
	Voltage balancer
	Open point
	Open point – out of phase
	Earth pin

Switch types (1:2500 view)

NetMAP system	Description
ABSD	Air brake switch disconnector
A/R	Auto recloser
A/S	Sectionaliser
FUSE	Fuse
S/D	Surge diverter
PF	Pathfinder
ASL	Automatic sectionalising links
PMR	Pole mounted recloser
PMS	Pole mounted sectionaliser
GVR	Gas vacuum recloser

1:10000 view - for UK Power Networks use only - boxed red

Notes

1. No EHV cables/overhead lines shown on 1:10000 view.
2. For congested areas print at 1:5000.
3. HV site used instead of branch joint on 1:10000 for connectivity purposes. The site is not displayed until it is selected.

Secondary distribution cables (1:10000 view)

NetMAP system	Description
	11kV underground cable
	6.6kV underground cable
	<6.6kV underground cable
	11kV overhead line
	6.6kV overhead line
	<6.6kV overhead line

Primary and secondary sites (1:10000 view)

NetMAP system	Description
Note: EHV and HV sites are identified by a unique 6 digit number (SPENS)	
SITE NAME 008590	Primary substation showing name and SPENS number
SITE NAME 521234	11kV ground mounted substation showing name and SPENS number
SITE NAME 524514	6.6kV ground mounted substation showing name and SPENS number
SITE NAME 523634	<6.6kV ground mounted substation showing name and SPENS number
SITE NAME pmt 527522	11kV pole mounted substation showing name and SPENS number
SITE NAME pmt 525743	6.6kV pole mounted substation showing name and SPENS number
SITE NAME pmt 526543	<6.6kV pole mounted substation showing name and SPENS number
SITE NAME 527238	Pole mounted switching substation showing name and SPENS number