



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

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Guidance notes.

Important notice:

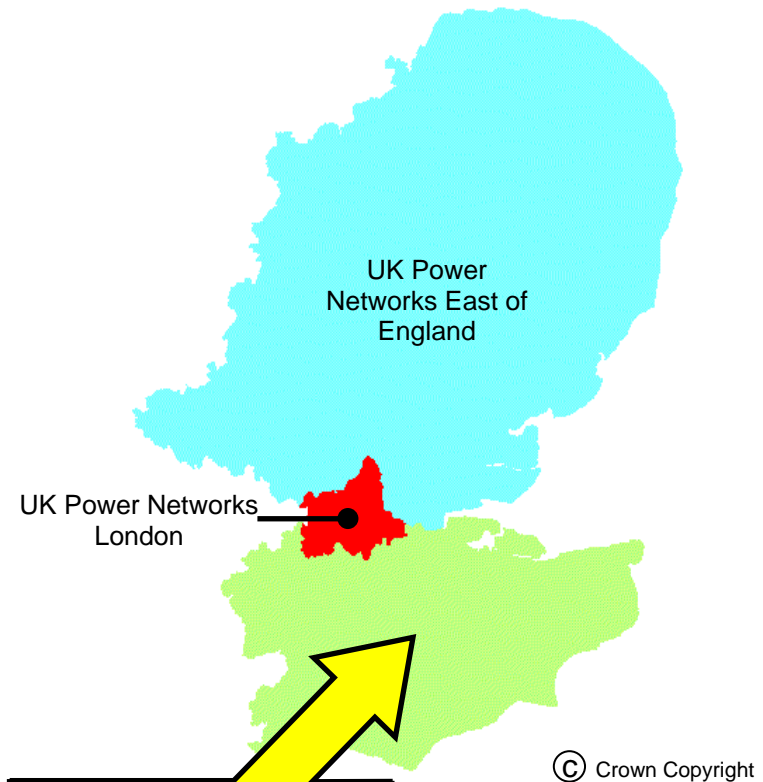
If you do not understand the NetMAP record that you are using, please contact the UK Power Networks Network Records team for guidance on
Tel: 08000 565866.

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

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

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Secondary distribution cable terminology continued (1:500 view)

LV underground mains and services

W	Waveform
We	Waveform with separate earth wire
H	Hybrid – copper neutral with aluminium phase conductor
He	Hybrid with separate 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
DISTR1	PISTA (paper insulated steel tape armour) 4c SAC (solid aluminium core) with lead covered neutral
c/c	Concentric cores
s/c	Split concentric with separated 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

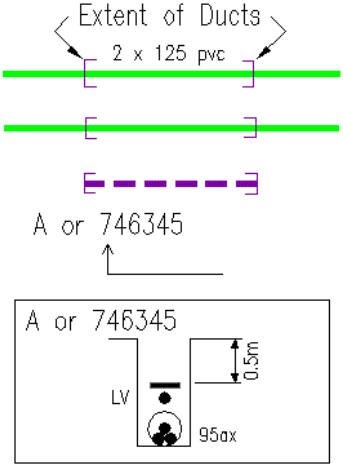
(no text)	Bare open wire
ABC	Aerial bundled (or bunched) conductor
cat	ABC (aerial bundled or bunched conductor) with supporting strain wire
pvc	PVC covered open wire
c/c	Concentric cores
H	Hybrid – copper neutral with aluminium phase conductor
ue	Under eaves – hessian covered lead cable
vir	Vulcanised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

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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
 <p>Extent of Ducts 2 x 125 pvc</p> <p>A or 746345</p> <p>A or 746345 LV 0.5m 95ax</p>	<p>Duct 2 way</p> <p>Duct 1 way (no text)</p> <p>Spare duct</p> <p>Cross section arrow</p> <p>Cross section showing: duct, tile depth, tile, single LV cable and HV Triplex cable</p>







Duct materials

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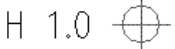




Poles (1:500 view)	
NetMAP system	Description
(S) 999999 	Section pole Pole number (unique) Single leg
	H pole
	3 member
	4 member
	Strut
	Pole support (stay)
	Flying stay
	Tower 33kV to 400kV

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
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> □ .1 .15 □ R - R Y - B B - Y </div>	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 <u>Text displayed/description</u>
	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
V05	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)

<u>Old core colours</u>	<u>Shown on map</u>	<u>New core colours</u>
Neutral	Neutral	Neutral
Red	R	L1
Yellow	Y	L2
Blue	B	L3

Note:- Scott is a different phasing system

Operational status colours (1:500 view)

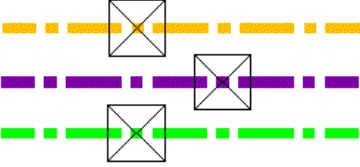
PROPOSAL ———— Symbols and cables appear in ORANGE
OUT OF SERVICE ———— Cable and joints appear in BLACK
ABANDONED ———— Cables and joints appear in GREY

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

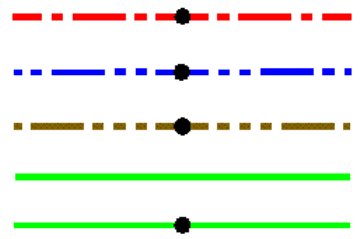
Notes

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

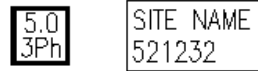

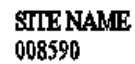
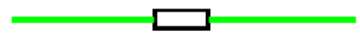

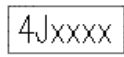
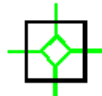
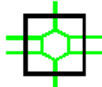

Primary distribution line route (1:2500 view)

NetMAP system	Description
	<p>275–400kV National Grid route</p> <p>132kV cable route</p> <p>33kV cable route</p>

Secondary distribution cables (1:2500 view)







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

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 disconnecter
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)			
<table border="1"> <tr> <td>SITE NAME 008590</td> <td></td> </tr> </table>	SITE NAME 008590		Primary substation showing name and SPENS number
SITE NAME 008590			
SITE NAME 521234			
SITE NAME 524514			
SITE NAME 523634			
SITE NAME pmt 527522			
SITE NAME pmt 525743			
SITE NAME pmt 526543			
SITE NAME 527238	