



Electric Office (EO)

ICP WEB USER GUIDE



WI-NET-ENG-XXX	GIS Electric Office - User Guide		
Revision – 3.0	Classification – External - ICPs	Issue Date - October 2019	Review Date - October 2020

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1 Introduction


- 1.1 EO Web is an online based GIS tool used for searching, tracing, plotting and downloading maps.
- 1.2 EO provides a cross-technology end-to-end view of the electric network, combining the fully connected electrical system with Google mapping systems.


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2 Create Account


- 2.1 Electric Office web is accessible via an internet browser, a login is required to access the system.
- 2.2 An account is required to access EO Web. The below guidance will demonstrate how to create an account to access EO Web.
- 2.3 When an account has been created, EO Web will be accessible using the URL:
<https://new-connections.ssen.co.uk/>

Setting up an Account


Account


Menu


Search


Accessibility

Sign In

Register

1

Step 1 - Access the SSEN website <https://www.ssen.co.uk/Home/>. If an account has not already been created, click on **Account** and **Register**.

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Profile registration

Create an account. It only takes a moment.

First name *

Last name *

Email *

Email confirmation *

Password * ?

Password confirmation *

Marketing consent ?

Please tick here if you wish to receive news, details of products and offers from us

Register


Step 2 - Enter the account details and click **Register** to create a new account. An automated email will be sent to confirm a new account has been created. Once the account has been approved, the user will be able to login to GIS EO Web.

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3 Logging In

- 3.1 Electric Office web is accessible via an internet browser, a login is required to access the system.
- 3.2 If an account has not already been created, refer to Section 2
- 3.3 EO Web is accessible using the URL: <https://new-connections.ssen.co.uk/>

Logging In



Step 1 - Access the SSEN website <https://www.ssen.co.uk/Home/> and click **Sign In**.

Please log into your account

Email Address *

Password *

Sign in ← 2

[Forgotten your details?](#)

Step 2 - Enter the **Username** and **Password** and click **Sign In**.

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Power Cuts & Emergencies

Connections

Connection requests

Connections home

For small projects

For developers

Moving your connection

Generation connections

Unmetered connections

Competition in connections ← 3

Disconnecting your supply

Step 3 - On the SSEN Home Page, click on **Connections** and **Competition in connections**.

Access to specifications, network information and GIS

Information and data specifically for registered alternative providers - Independent Connection Providers (ICPs) and Independent Distribution Network Operators (IDNOs).

If you would like to receive our network mapping information in a Shape file please follow this process:

↓ [How to receive our maps](#)

➤ [Online documentation](#) ← 4

- [Network Capacity Information](#)
- [G81 Design, Specification and Operational Documents for Comment](#)
- [Safety Bulletins](#)

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Step 4 – Select Online documentation.

Governing Law and Jurisdiction:

These terms and conditions and any dispute arising herein shall be governed by and construed in accordance with the laws of either England or Wales or Scotland depending on the country from which access is made, and subject to the exclusive jurisdiction of the English or Scottish Courts, whichever is applicable.

I accept the Terms and Conditions

[Accept and Continue >](#) 5

Step 5 – Read the Terms and Conditions and click Accept and Continue.

Alternative Provider Network Information

Welcome to Scottish and Southern Electricity Networks website providing network information and data specifically for use by registered Alternative Providers - Independent Connection Providers (ICPs) and Independent Distribution Network Operators (IDNOs) - to enable design analysis to determine a suitable Point of Connection (POC) to our electricity distribution network.

G81 Design, Specification and Operational Documents

Network Geographical Information System (GIS)

6

Step 6 – Click Geographical Information System (GIS).

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Network Geographical Information System (GIS)

Scottish and Southern Electricity Networks maintain a Network Geographical Information System (GIS) which represents the assets on the network in a geographical form.

The GIS tools will allow the identification of POCs to be identified using the network information.

Both Network regions are available using the link below.

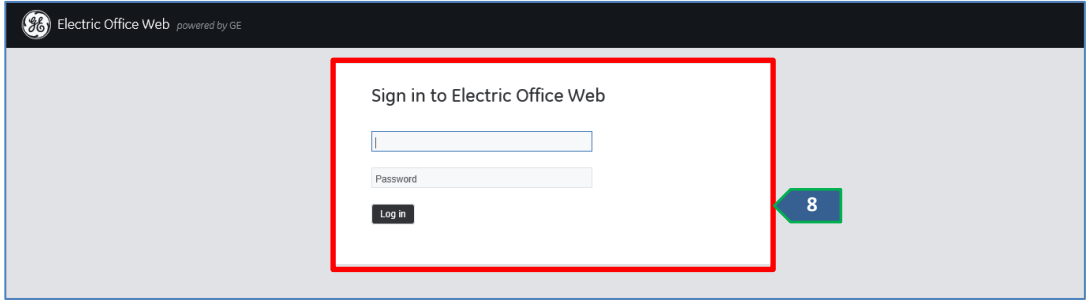
GIS Video Guide



Networks GIS

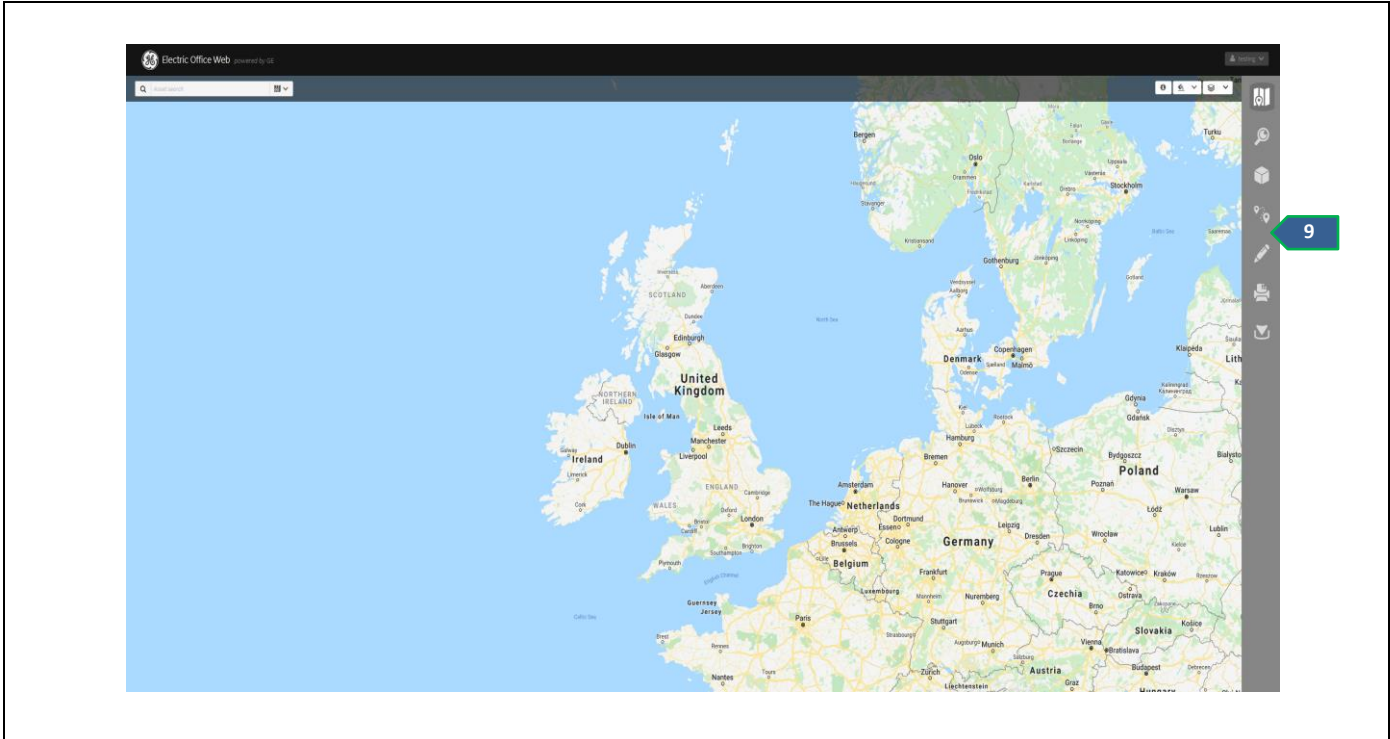
[Access GIS](#) 7

Step 7 – Select **Access GIS** to open the EO Web login page.



Step 8 – Enter the **Username** and **Password** and select **login**.

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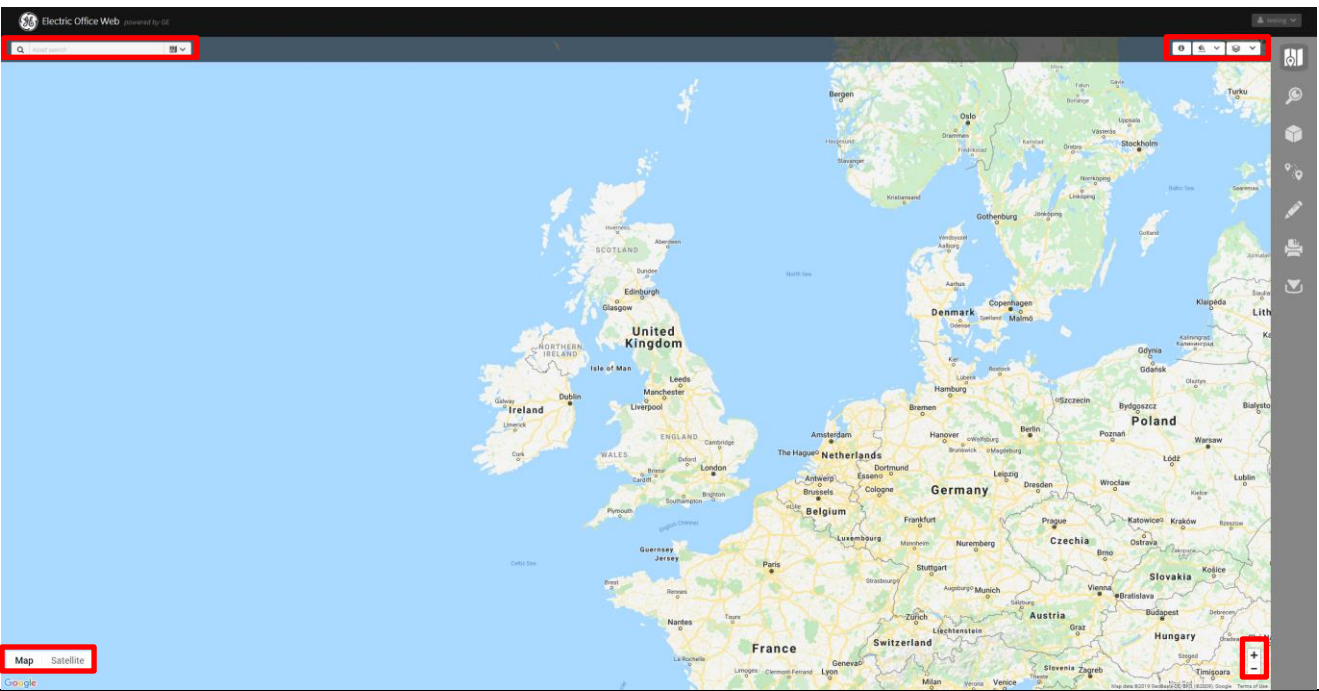


Step 9 - GIS EO Web will open on the homepage, this appears the same every time the user logs in.



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4 Home screen


Home Screen



Q **Quick search function** – Quickly filter searches to either an asset or an address by clicking the downward arrow.

 **Filter layers easily** – Choose which layer(s) by selecting or deselecting the **eye** symbol  . More than one layer can be viewed at a time.

 **Switch between Map and Satellite view** – Choose the background map (default layer) or a satellite view of the area, by clicking the relevant option.

+ **Easy to use zoom and scroll functions** – Click the + or – sign  to zoom in or out, or alternatively use the scroller on the mouse.

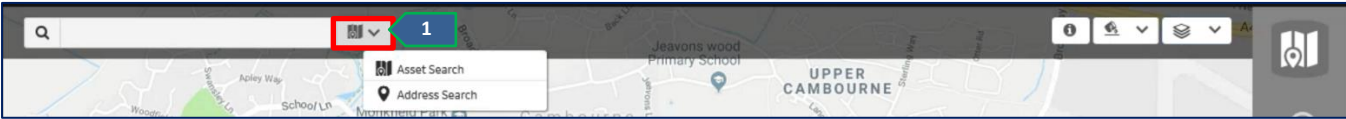
4.1 Google Maps is part of GIS so there is no need to use multiple applications when searching for locations. Satellite view and Streetview are available as part of GIS.

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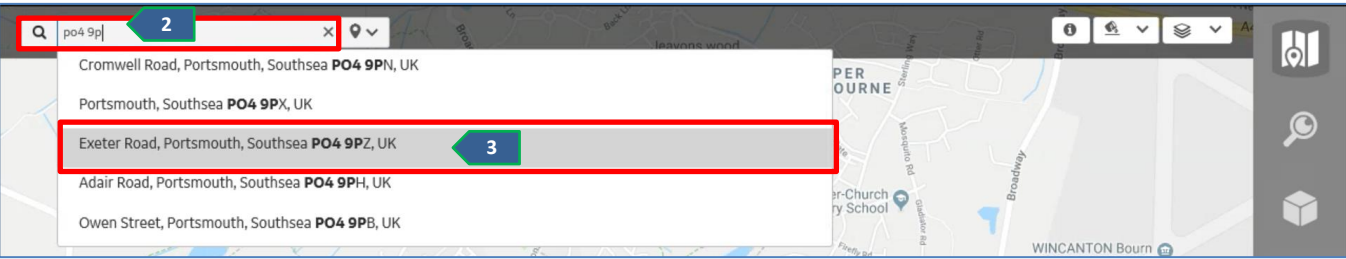
5 General Navigation

- 5.1 Electric Office Web is an online based GIS tool used for searching, tracing, plotting and downloading maps.
- 5.2 All icons and tool bars are fixed on the screen, so will always be viewable.
- 5.3 Below we will look at the home screen functionality in more detail.

Quick Search



Step 1 - Select the type of search required by clicking on the downward arrow (**Asset** or **Address Search**).



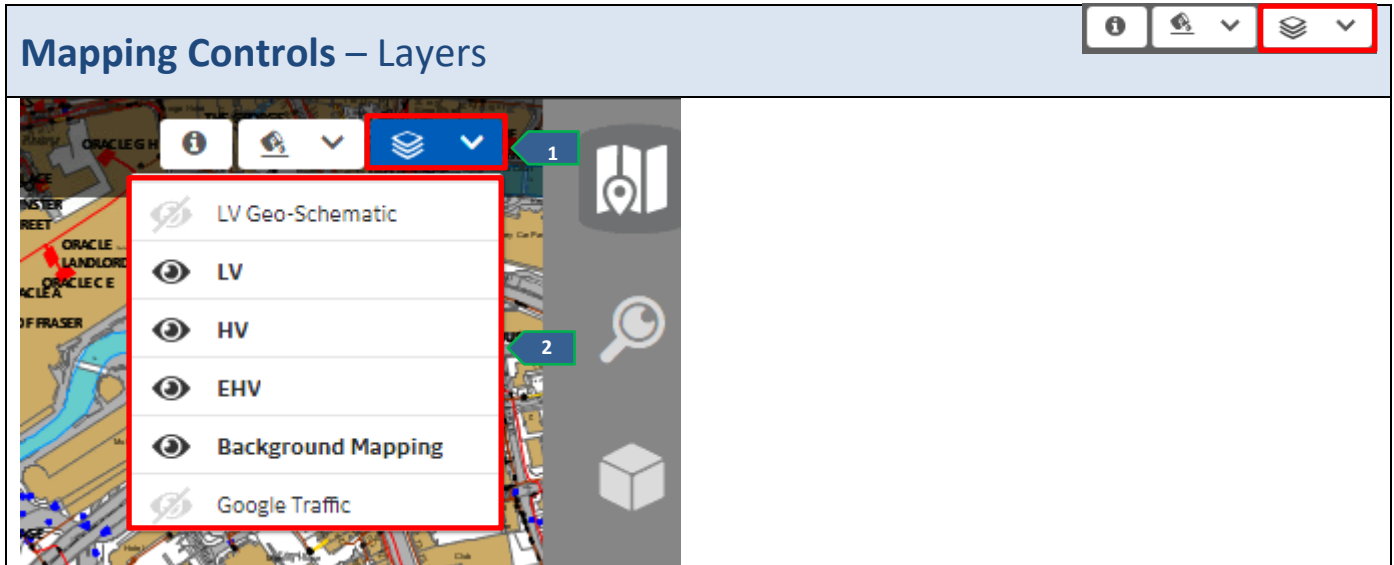
Step 2 - Type the details in the search bar. As the user types, a list will appear. This list will filter down the more the user types.


Step 3 - Select an item from the list and it will automatically take the user to this location.

Note: Asset search will populate a list of assets in that location, with the nearest being the **Top Result**.

Note: If searching for an asset with a popular name e.g. Manor Farm Substation, first use **Address search** to go to the town / area the asset is likely to be located in, then search for the asset. The nearest asset to that location will appear near the top of the search results.

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Step 1 - Select the arrow next to the **layers**  icon. This opens a drop-down of all the different layer options.

Step 2 - Select or deselect the different layers. Layers that are greyed out are not visible in your view.

Note: The different layers below:

- **LV Geo-Schematic**
- **LV:** Low Voltage (Less than 1kV)
- **HV:** High Voltage (1kV – 20kV)
- **EHV:** Extra High Voltage (20kV and above)
- **Background mapping:** Ordnance Survey map / master map. This is automatically updated every 2 months and must be used for accuracy when measuring
- **Google Traffic:** Roads are red, amber or green dependent on live traffic reports

Note: Google background to be used for general location / visibility. For accurate location of assets **Background Mapping** must be used.

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Mapping Controls – LV GEO-Schematics



Step 1 - Click the **Layers** icon. 

Step 2 - Deselect all layers except **LV Geo-Schematic**.

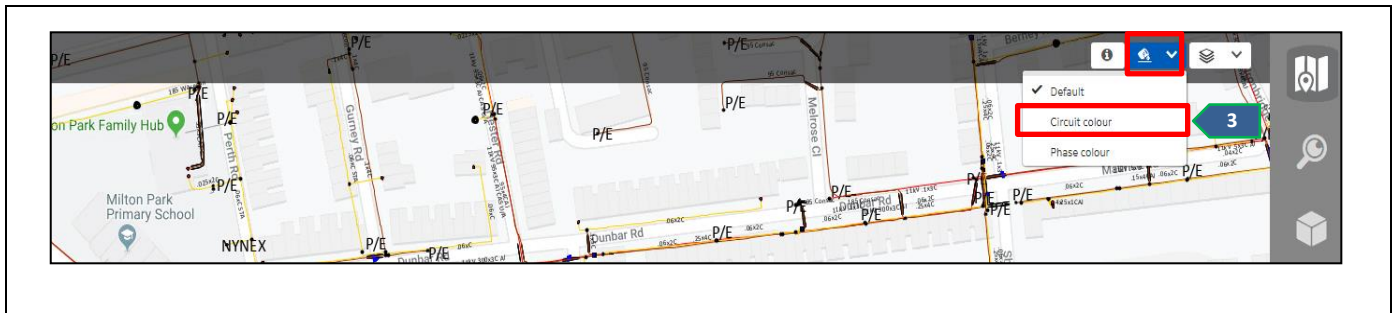
Mapping Controls – Circuit colour



Step 1 - Click the **Layers** icon. 

Step 2 - Deselect all layers except **LV** (or relevant voltage).

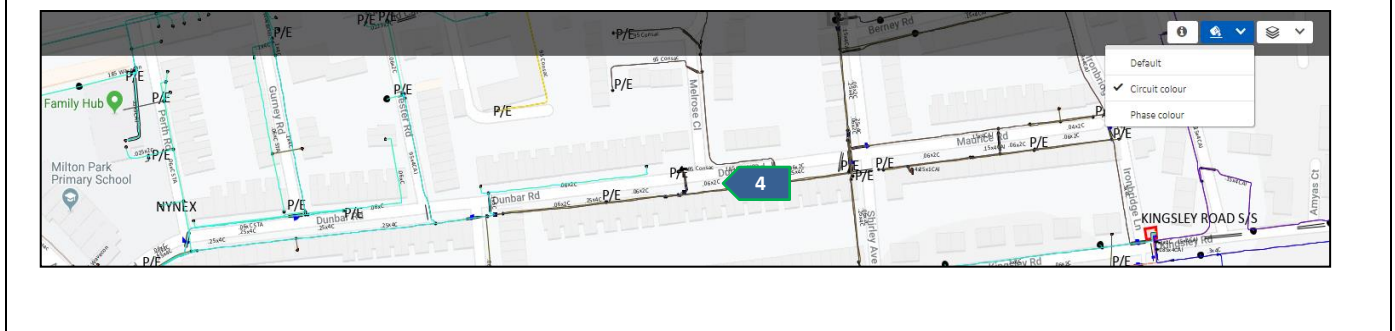
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Step 3 - Click the **Colours** icon  and select **Circuit colour**.


Note:

- **Default** – Distinguished by operating voltage
- **Circuit colour** – Changes the colours of each circuit and where it's fed from
- **Phase colour** – Changes the colours of each phase



Step 4 - The network will now be coloured by circuit.

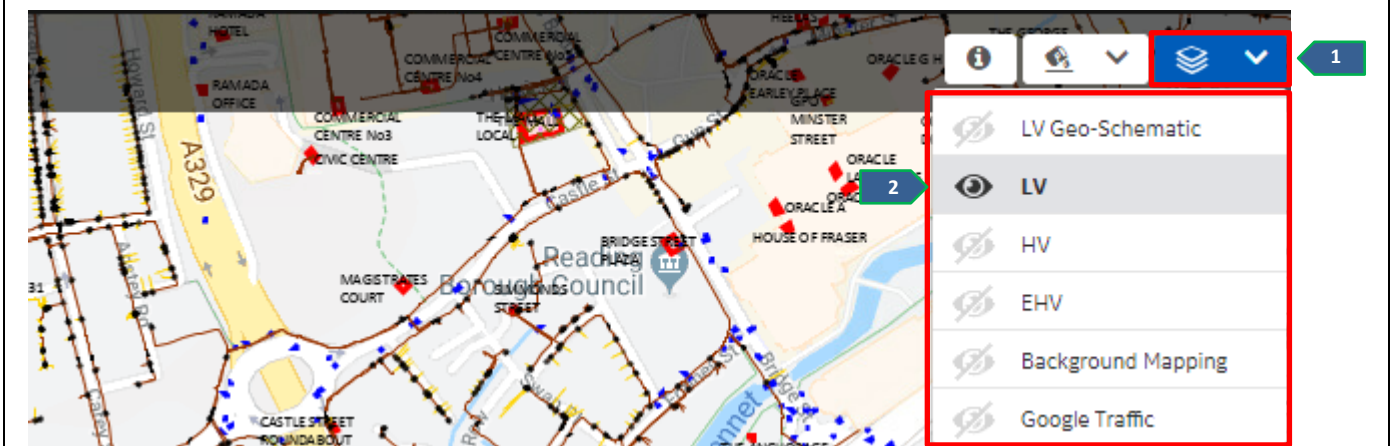
Note: Open points are clearly identifiable. If the colour is the same either side, it's marked as closed. If there are different colours each side of the link box, it's marked as open.

More information on open points can be found by looking at the **Object details**  the Section on Asset Information.

Note: EO works based on accurate connectivity. For the Scottish regions, there has been circuit modelling to fill in some of the gaps, this is based on what is assumed to be there.

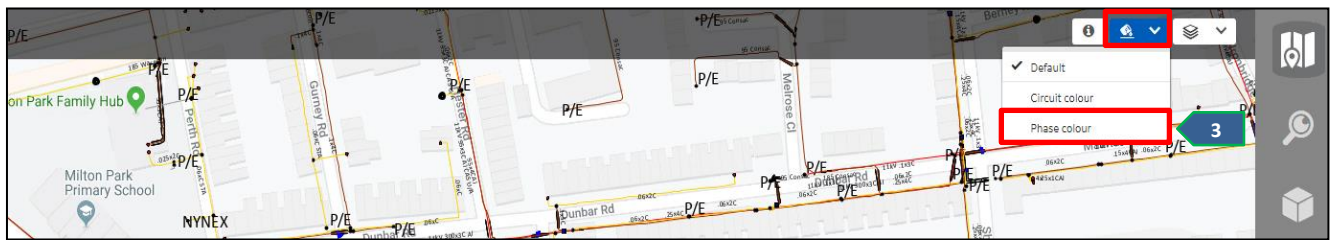
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Mapping Controls – Phase colour



Step 1 - Click the **Layers** icon. 

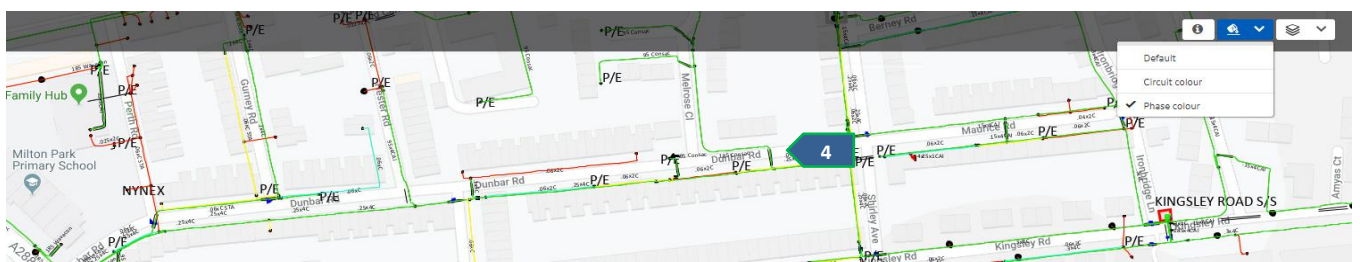
Step 2 - Deselect all layers except **LV**.



Step 3 - Click the **Colours** icon  and select **Phase colour**.

Note:

- **Default** - Distinguished by operating voltage
- **Circuit colour** - Changes the colours of each circuit and where it's fed from
- **Phase colour** - Changes the colours of each phase



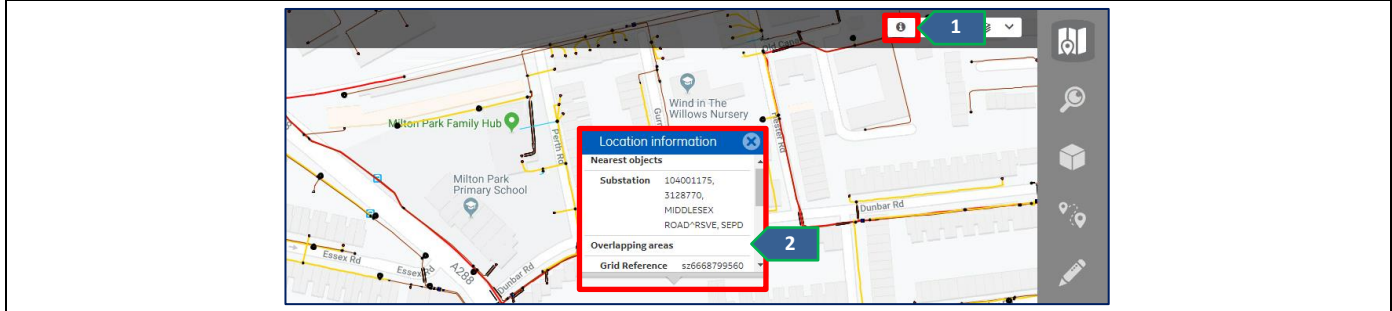
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Step 4 - The network will now be coloured by phase.

Note: EO works based on accurate connectivity. For the Scottish regions, there has been circuit modelling to fill in some of the gaps, this is based on what is assumed to be there.


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Mapping Controls – Location Information



Step 1 - Select the **Information** icon . It is highlighted in grey when selected .

Step 2 - Click on any location on the map and a **Location Information** box will appear with information such as nearest asset, address, substation and the GPS co-ordinates, including Grid Reference Number and Eastings and Northings.

<div style="border: 1px solid black; padding: 5px;"> <p>Location information ✕</p> <p>Nearest objects</p> <p>Substation 100115939, 3127647, BRANSBURY PARK, SEPD</p> <p>Overlapping areas</p> <p>Grid Reference sz6668799560</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>Overlapping areas</p> <p>Grid Reference sz6668799560</p> <p>Easting 466793</p> <p>Northing 099379</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>GPS coordinates</p> <p>longitude 01° 03' 13.6" W</p> <p>latitude 50° 47' 24.4" N</p> </div>
		

Step 3 - The **Location Information** box includes additional information at a specific point on the Map.

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Zoom



Step 1 - Click on the plus (+) symbol and the map will zoom towards the centre point, the minus (-) symbol will zoom away from the centre point.



Step 2 - A dialler will appear, and the blue point will move up or down depending on the level zoomed in or out.

Note: This can also be achieved by scrolling up and down using the mouse scroller.

Note: The asset location is locked to the Background Mapping and will be accurate at all zoom levels. If in Google view, after a zoom level of 20z the assets will 'drift' away from an accurate location. **Use Google for location and visibility, use Background mapping for accuracy and measurement.**



Step 3 - Once the map is zoomed in (+) a certain distance, it will automatically switch to Streetview. The user is unable to zoom any closer. Streetview can be closed by zooming back out using the minus (-).

Note: Streetview will become visible at zoom scale 24z.

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View



Step 1 - Switch between Map view and Satellite view by selecting either option. Map view will always be the default.

Note: The **Background Mapping** layer will need to be switched **OFF** to show the **Satellite View**.



Step 2 - In Satellite view, there is the option to deselect place names. This is done by unchecking the **Labels** box when selecting the Satellite option.

Note: The Satellite function is for reference and guidance only. If accurate measurements need to be made, then the **Background mapping** layer must be used.

Tool Bar

The tool bar is accessible to the right of the screen and will always be visible for every action throughout Electric Office.

The tool bar has eight symbols that each represent a different action. These are **Map**, **Find**, **Object details**, **Trace**, **Sketch**, **Plot**, and **Download**. We will look at each of these functions in more detail in the following sections.

Clicking on an icon will open it to provide more information and options.



Map



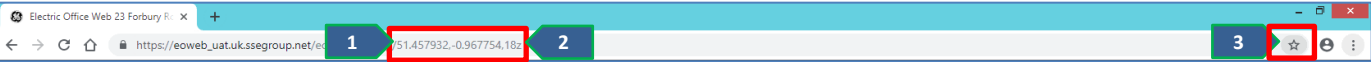
The **Map** icon is the default icon selected. It will always take the view back to full screen and hide any additional information.

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6 Bookmarking

- 6.1 EO is accessed via a web link. This link changes based on the GPS coordinates of each location.
- 6.2 The user can save areas they use frequently, such as a depot or a region, by bookmarking the EO weblink when at a desired location and zoom level.
- 6.3 When the user moves, searches and zooms around the map, the longitude and latitude and zoom level will change in the web link (URL) to match the changing criteria.

Bookmark



Step 1 - When at a desired location, the URL will show the GPS coordinates for that location.

Step 2 - The numbers on the end are the zoom level, alter the zoom and this number will change to relevant Google zoom level.

Step 3 - Once the user is happy with their location and zoom level, click the bookmark button to add to the top of the web browser tool bar.


















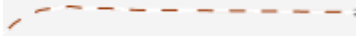
Note: This URL can also be shared with others on other devices by copying the link and pasting it into an email or text. It will open to the same location and zoom level with the default layers visible.

Note: The example above is from the Google Chrome browser. When using other browsers, the concept is the same, look for the **Star** icon or **Favourites** button.

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7 Symbolology

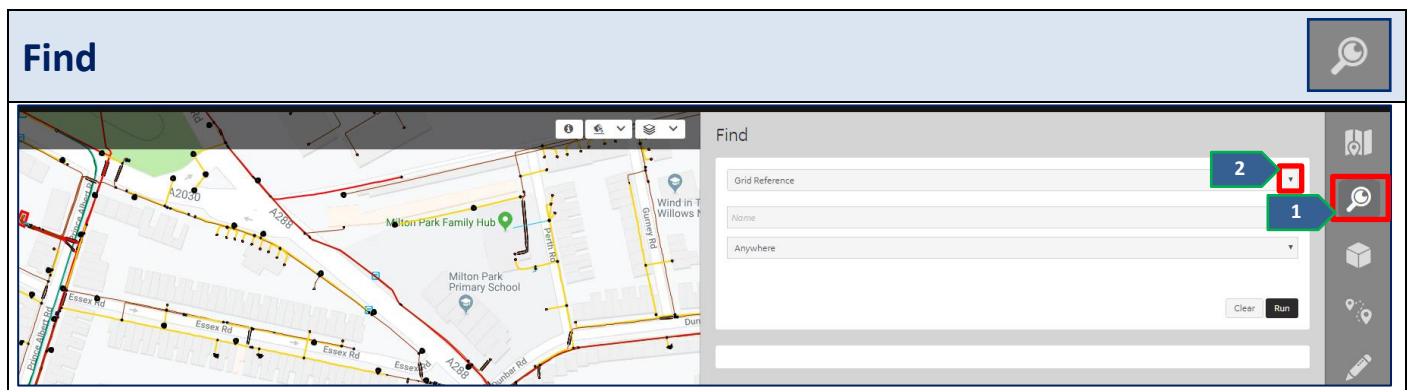
- 7.1 This chapter will highlight a selection of symbols found in EO. A selection is available at the back of this User Guide.
- 7.2 An asset symbol can be identified by selecting it on the map. An **Information Box** with more details about the asset selected will appear.


Symbolology		
EHV (Extra High Voltage)	HV (High Voltage)  2– 3.3kV  6.6kV  11kV	LV (Low Voltage)  Single Phase (230v)  Three Phase (400v)  Split Phase (460v)
LV Supply Point 	Street Furniture 	Straight Joint 
Substation 	Single Pole 	Pole Termination 
Pole Mounted Transformer 	Link Box 	Tower 
Switch Disconnecter 	HV Assumed Route 	LV Assumed Route 

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8 Searching Assets

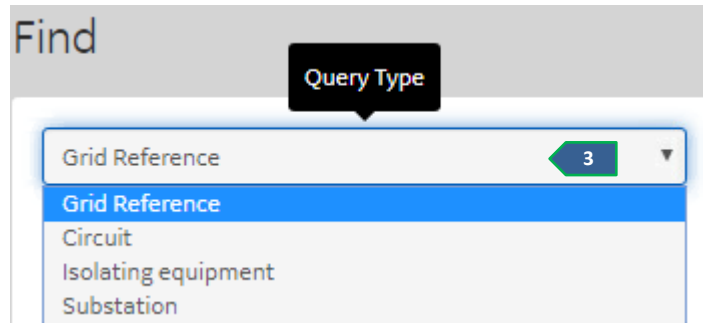
- 8.1 There are two ways to locate assets and search addresses. The **Quick search** function (Page 6) and the **Find** function  located on the Tool Bar.
- 8.2 The **Find** function locates an asset or assets based on specific search criteria. This allows a more refined search in comparison to the **Quick search** bar.
- 8.3 There are several filters that can be used before running a search to narrow down the criteria.



Step 1 - Click on the **Find** icon  on the Tool Bar to open up the **Search criteria**.

Step 2 - Select the **Query type** by clicking the downward arrow.

Step 3 - Choose the **Query type** depending on the search criteria required.



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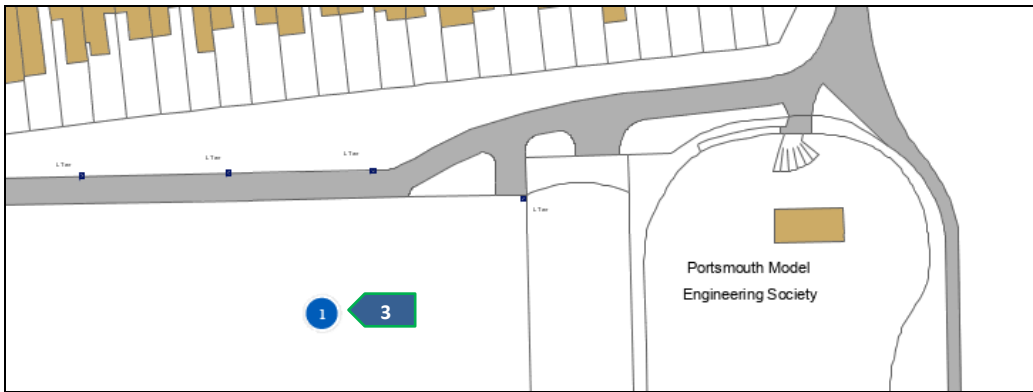
Grid Reference Numbers (GRN)

The screenshot shows a search interface with a red box highlighting the search input field. The input field contains the text 'SZ6683499389'. Above the input field is a dropdown menu labeled 'Grid Reference' with a green callout '1'. Below the input field is another dropdown menu labeled 'Anywhere' with a green callout '1'. To the right of the input field is a 'Clear' button and a 'Run' button, with the 'Run' button highlighted in red and a green callout '2'.

Step 1 - Click on **Grid Reference** from the drop-down menu, enter a **GRN** and make sure **Anywhere** is selected.

Note: A Grid Reference Number (GRN) included a mixture of 2 letters and 10 digits (no spaces). This will need to be entered in order to go to a specific location.

Step 2 – Select **Run** to go to the location in the Map View.



Step 3 - A pin drop will be placed in the Map View for the GRN search.

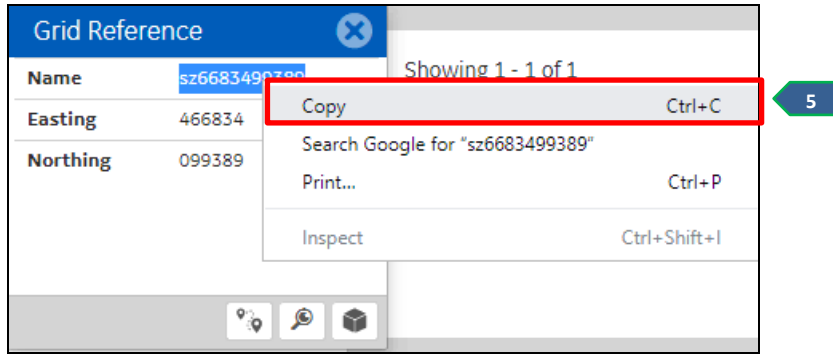
The screenshot shows the search results interface. On the left, there is a table with the following data:

Grid Reference	
Name	sz6683499389
Easting	466834
Northing	099389

On the right, there is a search results list showing 1 of 1 results. The result is a 'Grid Reference' with the value 'sz6683499389 466834 099389'. A blue callout '1' and a green callout '4' are positioned near the result. At the bottom right, there are navigation buttons: 'Previous', '1/1', and 'Next'. There are also 'Apply Filter' and 'Export' buttons at the top right.

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Step 4 – Click on the GRN in the **Find** window to show the GRN and Easting & Northing.



Step 5 - Use the **Copy & Paste** tool for the GRN and Easting & Northing to copy the information to another source.

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Isolating Equipment (Within Map)

Step 1 - Use the dropdown to select a location.

Anywhere – The whole of the SSEN network

Within Map – Within the current viewable map

Within Area – Not currently available

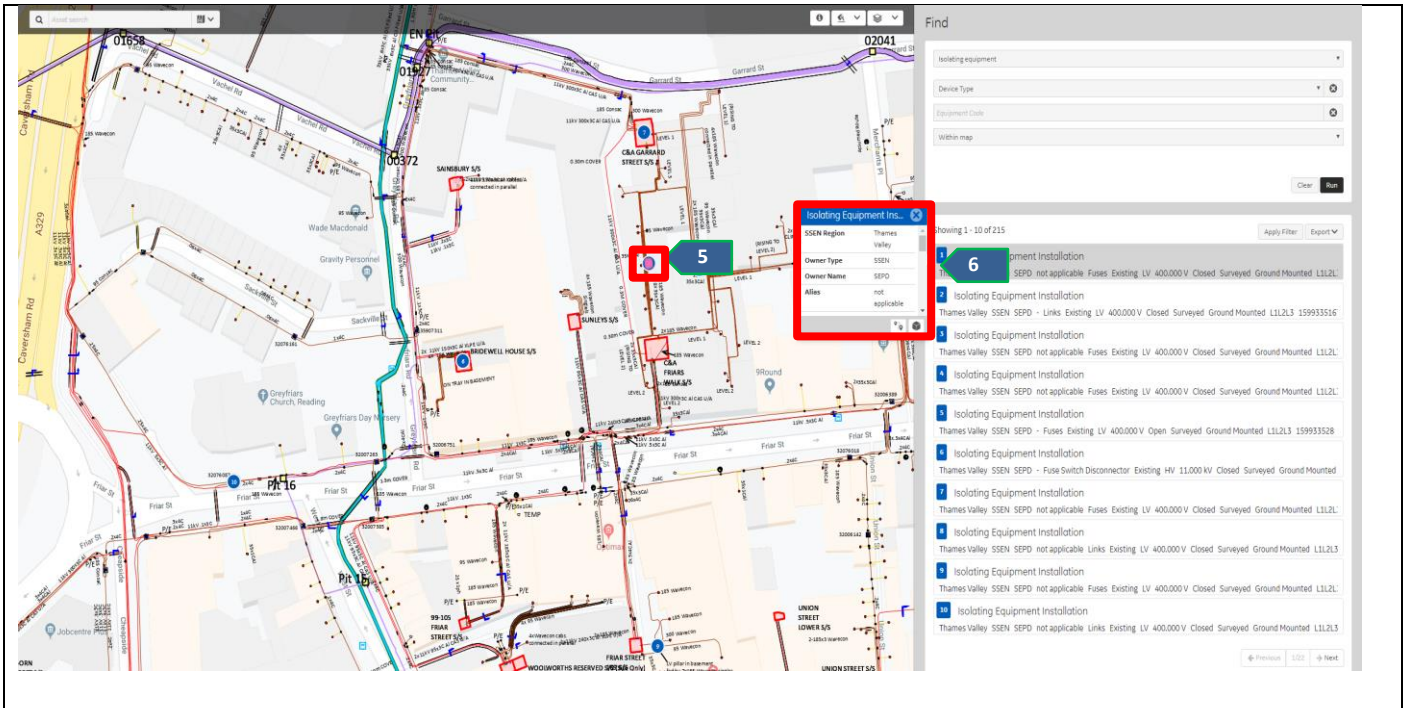
Step 2 - Click **Run**  to search for the request.

Note: If using the **Within map** search criteria, zooming out will give a wider area to search within.

Step 3 - A list populates below the search criteria. It will show the first 10 results that match the request. Any subsequent results will go on to the next page. Scroll down the list and click **Next** to scroll through the pages.



Step 4 - The list is numbered and each number is visible in the relevant location on the map.

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Step 5 - Clicking on a search result from the list will highlight its location on the map in pink.

Step 6 - It will also reveal an **Information Box** pop up with information relevant to the asset selected.

This pop up box also provides the user with options to view **Object Details**  and to **Trace**  from the selected asset.

Isolating Equipment (Find by Equipment Code)

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Step 1 - Select **Device Type** from the drop-down menu and enter an **Equipment Code**.

Step 2 - Using the drop-down, select **Anywhere**.

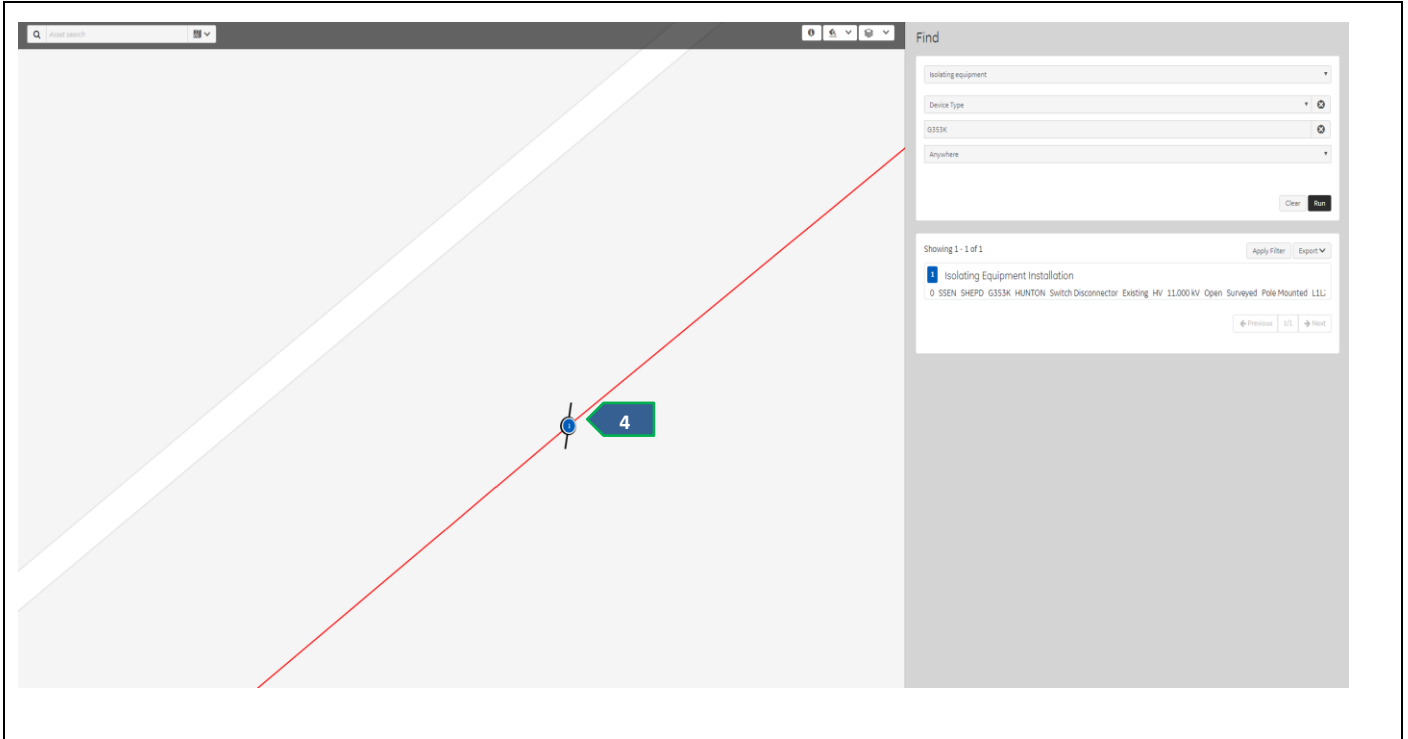
Anywhere – The whole of the SSEN network

Within Map – Within the current viewable map

Within Area – Not currently available

Step 3 - Click **Run**  to search for the request.

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Step 4 – The search will navigate to the **Isolating Equipment Installation** in the **Map View**.

Note: If an invalid **Equipment Code** is entered, no results will be shown.

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Substation (Within Map)

Step 1 - Use the drop-down to select a location.

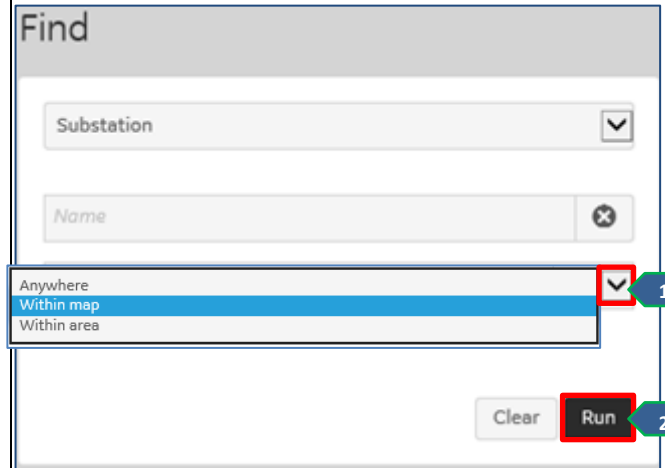
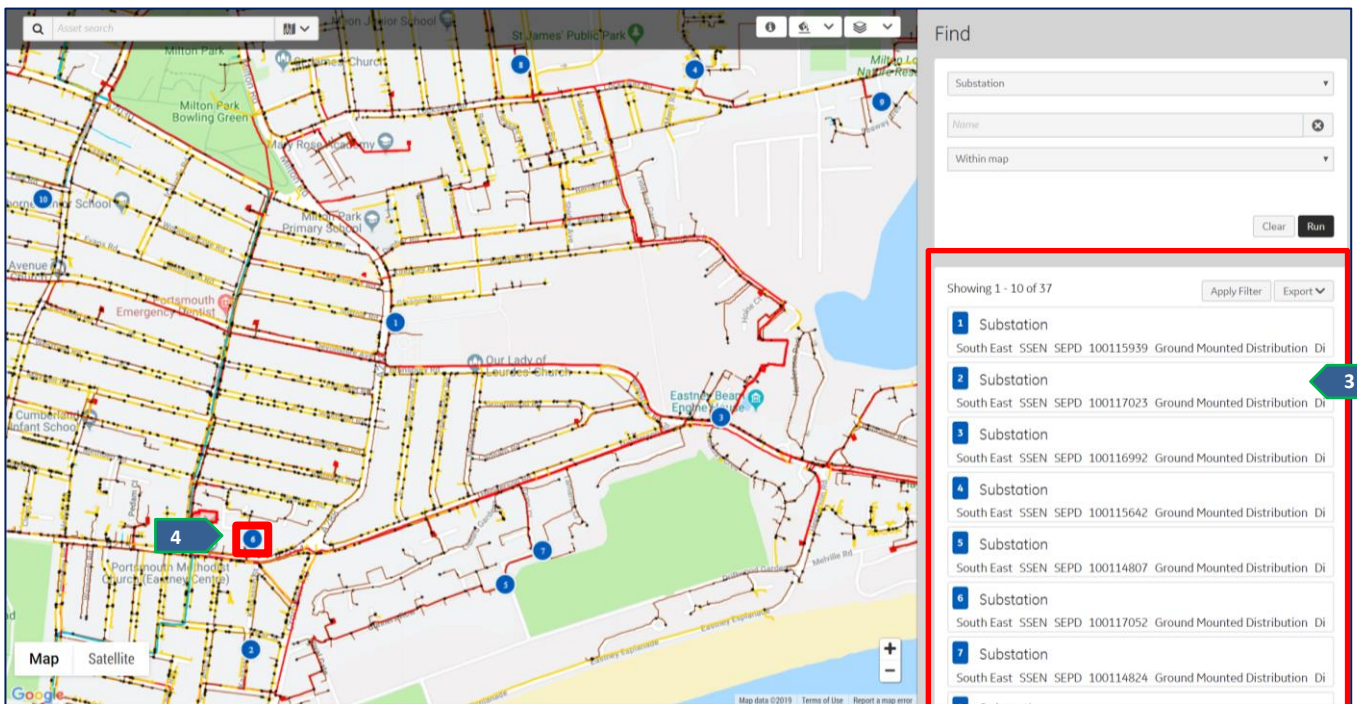
Anywhere – The whole of the SSEN network

Within Map – Within the current viewable map

Within Area – Not currently available

Step 2 - Click **Run**  to search for the request.

Note: If using the **Within Map** search criteria, zooming out will give a wider area to search within.

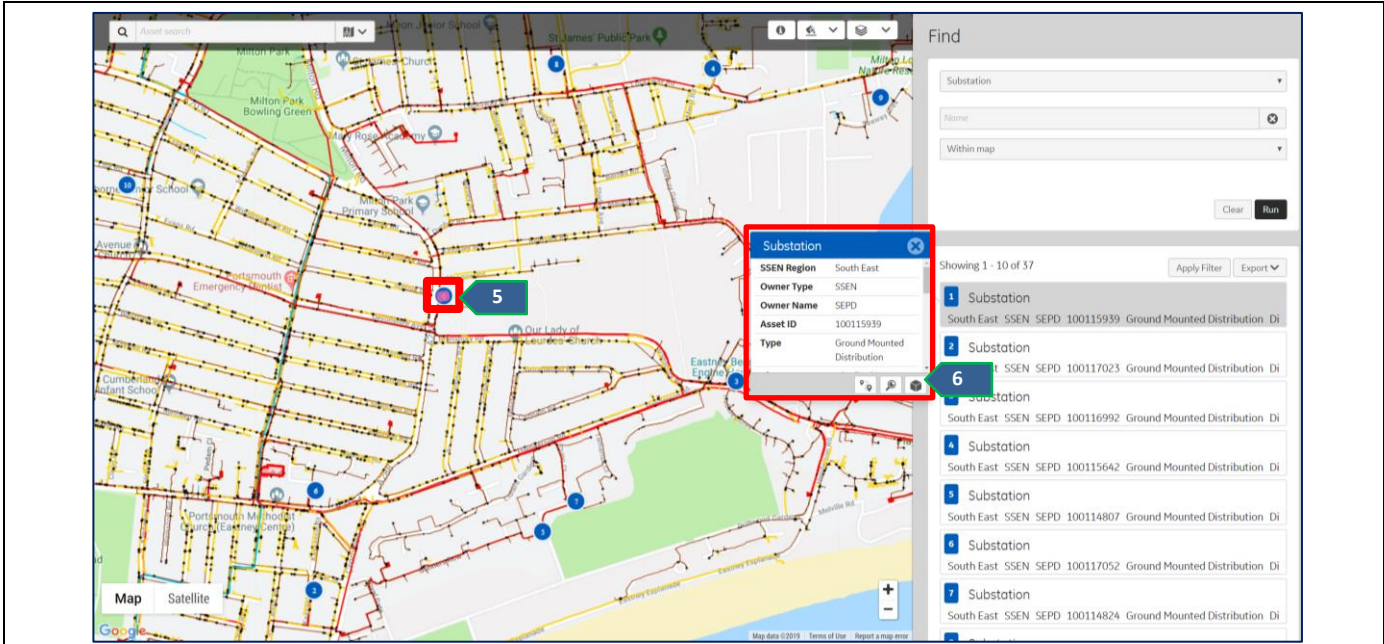



Step 3 - A list populates below the search criteria. It will show the first 10 results that match the request. Any subsequent results will go on to the next page. Scroll down the list and click **Next** to scroll through the pages.



Step 4 - The list is numbered and each number is visible in the relevant location on the map.

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Step 5 - Clicking on a search result from the list will highlight its location on the map in pink.

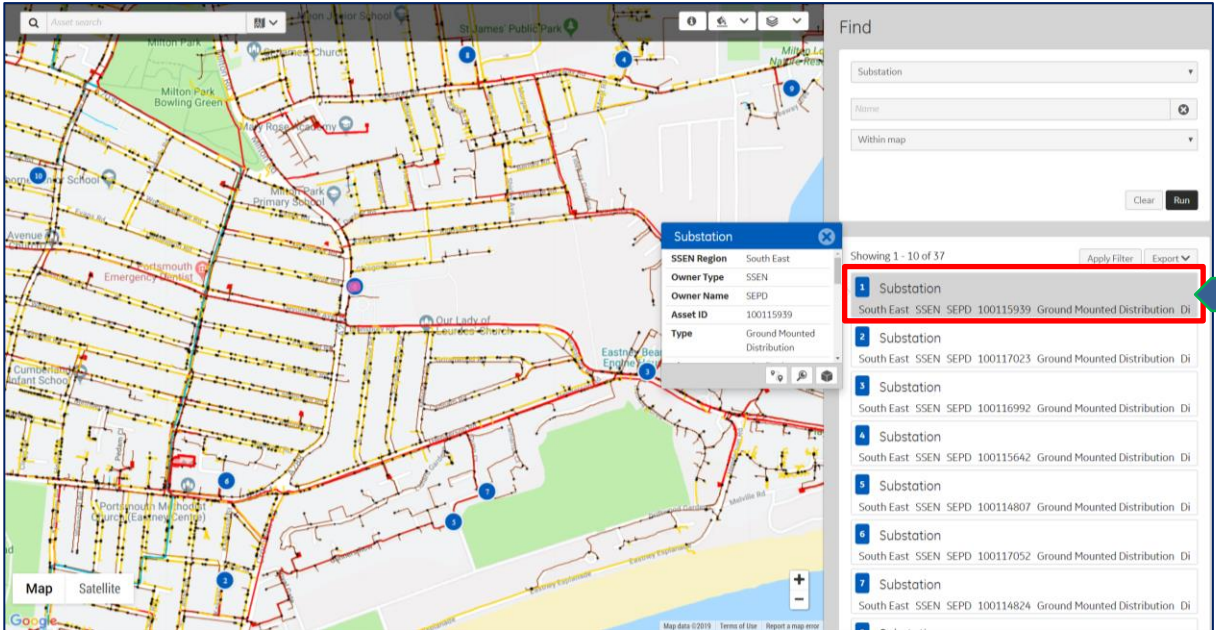
Step 6 - It will also reveal an **Information Box** pop up with information relevant to the asset selected. This pop up box also provides the user with options to view **Object Details**  and to **Trace**  from the selected asset.

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9 Asset Information

9.1 To find out more information about a particular asset, click on the **Object Details** icon  either in the tool bar or in the pop up that appears by clicking on an asset on the map.

Object Detail




Step 1 - Click on an asset on the map or from the search results. An **Information Box** pop up will appear with details about that asset.

Note: The **Information Box** pop up that appears when an asset is selected gives a basic overview of what information EO holds on that particular asset.




Data Confidence highlights where the data has come from and how accurate it is.

- **Assumed** - Data source is not accurate
- **Derived** - SSEN template created for the asset, e.g. No internals for an SSEN Substation
- **Surveyed** - As-built sketch or legacy data from GIS
- **Unknown** - Data source is unknown

Step 2 – To find out more detailed information click on the **Object Details** icon. 

Substation

Class	Distribution
Name	BRANSBURY PARK
Site Code	3127647
Status	Existing
Data Confidence	Surveyed

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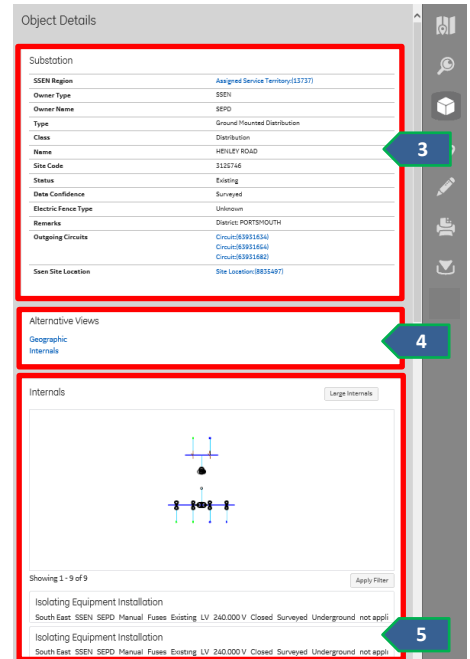
Step 3 - A panel will open along the right of the screen. This will display all details about the selected asset.

Step 4 - There are two ways to view the asset in more detail:

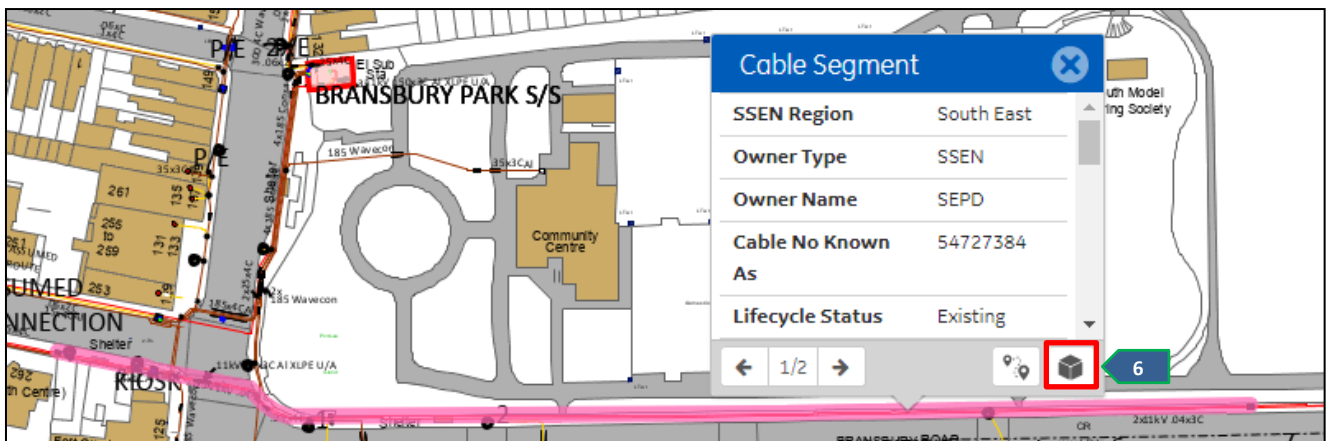
- Geographical - This will zoom to the area on the map where the asset is located.
- Internals - If the asset has an internal structure, it is displayed here.

Step 5 - If the asset has an internal structure, a list of components within it will be listed, along with an internal drawing.

Note: Large internals will expand the diagram to full screen.



Note: Historically the North have not captured internal structures on GIS. As a result, the internals in the North are largely assumed.



Step 6 – Select any asset in the Map View to show the **Information Box**. Click on the **Object Details** icon to show additional information in the Object Details across the right hand side of the screen.

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Asset view

Cable, 3C_Unk_0.04Cu_11

L1 L2 L3 Cable Spec, 11kV .04 x3C Cu 7


Cable Segment

SSEN Region	Assigned Service Territory:(16458)
Owner Type	SSEN
Owner Name	SEPD
Cable No Known As	54727384
Lifecycle Status	Existing
Network Type	HV
Operating Voltage	11.000 kV
Data Confidence	Surveyed
Mounting	Underground
Usage	Main
Geometric Length	277.558 m
Circuit ID	5211005
Existing Neutral	None
Existing Phasing	L1L2L3
Scaled Annotations	Cable Annotation:(4794799) Cable Annotation:(54645741)
Circuit/Section	5211005, FRAP, Circuit Section:(65686984) Circuit Section:(65687002)


Step 7 - View information for the selected asset in the **Object Details** window. For example, when a **Cable Segment** is selected identify, the following:

- Network Type
- Operating Voltage
- Geometric Length (Accurate recorded measurement of Cable Length)
- Circuit ID (Network Reference Number)

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Circuit/Section [5211005, FRAP,](#) 
 Circuit Section:(65686984)
 Circuit Section:(65687002)

Step 8 - Identify the location of the **Primary Substation** and where the **Circuit** was fed from by selecting the hyperlink.

Circuit	
SSEN Region	Assigned Service Territory:(16458)
Circuit ID	5211005
Name	FRAP
Alias	FRATTON PARK-ESL5 

Step 9 - The **Primary Substation** for the Circuit will be displayed. Use the **Quick Search** bar to locate and go to the **Substation** in the **Map View**.



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10 Tracing the Network

- 10.1 The **Trace** option allows the user to trace the path the power flows through.
- 10.2 Electric Office highlights the path the energy takes on the map as well as any assets along this path.
- 10.3 In order to successfully complete a trace, the user must select an electrical asset (e.g. cable segment, circuit breaker) and not a distribution structure (e.g. pole, substation)
- 10.4 A trace can only be completed **Upstream** or **Downstream**. For example, an Upstream trace would be started from a customer location (i.e. Supply Point) to identify the source (Substation). Conversely, a Downstream trace would be completed from a Substation to view all customers who are connected to the network in that area/region.
- 10.5 Trace will only work if the data is accurate.
- 10.6 Trace results can also be exported into an Excel document.

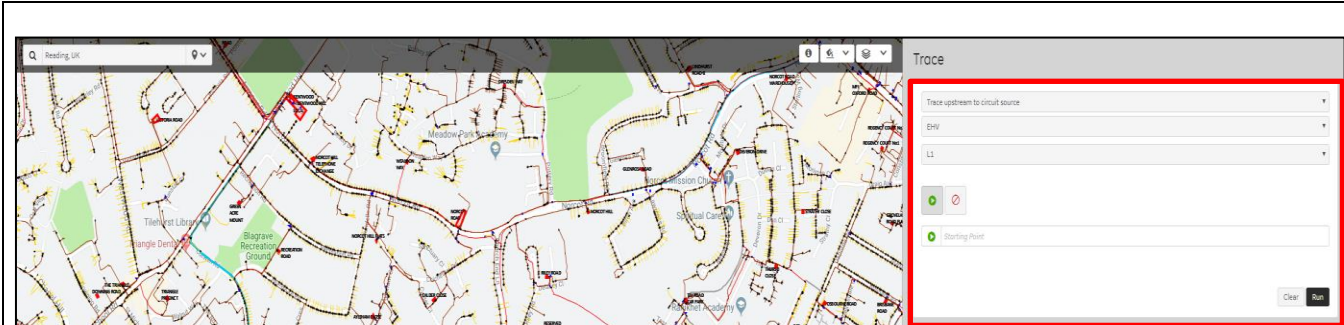


Start a **Trace** in two separate ways:

- Selecting the **Trace** icon  from the tool bar
- Clicking on the asset to be traced from and selecting the **Trace** icon  from the pop up

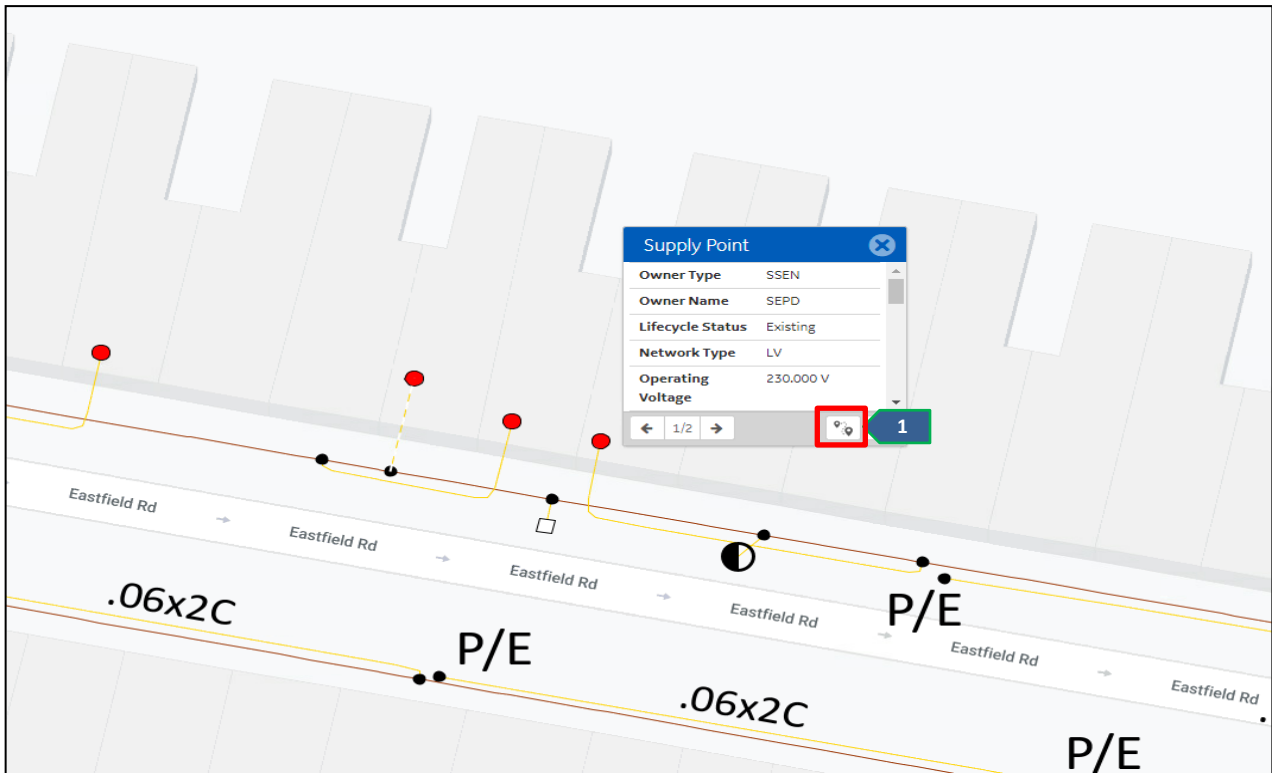
Note: Any asset the user selects from the map is highlighted in pink.



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Step 3 - Both options will open the **Trace** function on the right of the screen.

Trace Upstream to Circuit Source



Step 1 - Select a **Cable Segment** or **Supply Point** in the **Map View** and click on the **Trace**  icon. This will then be indicated as the **starting point**  for the Trace.

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Note: If the trace icon was selected from the pop up on the map, the starting point will automatically be highlighted. This can be changed by clicking on a separate asset on the map.

Trace

Trace upstream to circuit source ▾

LV ▾

L1L2L3 ▾

▶
⊘


▶ Supply Point ✕

Clear
Run

Step 2 - Update the Trace Parameters:

- **Trace upstream to Circuit Source**
- **Network Type:** LV, HV or EHV. The trace will **NOT** run if an incorrect **Network Type** is selected.
- **Phase:** Chose between L1, L2, L3 or L1L2L3 to start the trace

Step 3 - Click Run to start the **Trace**.

Note: The user can block directions the trace goes and set end points by using the **Block Nodes** icon  which is found next to the **Starting point** icon.

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Step 4 - Trace results will be shown in the **Map View** in Orange, showing **Network Connectivity** and highlight the **Circuit Source**, i.e. Substation.

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Supply Point
Existing LV 230.000 V L1N 521100906005 SSEN SEPD Property 0 No Unknown Surveyed

Cable Segment
Existing LV 230.000 V Service L1 Owns 521100906005 SSEN SEPD Underground 10.886345576358563 10.8863

Joint Installation
Service Existing LV 400.000 V L1L2L3 521100906005 SSEN SEPD Underground Surveyed

Cable Segment
Existing LV 400.000 V Main L1L2L3 Owns 521100906005 SSEN SEPD Underground 87.82434092924247 87.824 5

Joint Installation
Tee Existing LV 400.000 V L3 521100906005 SSEN SEPD Underground Surveyed

Cable Segment
Existing LV 400.000 V Main L1L2L3 Owns 521100906005 SSEN SEPD Underground 59.02509873529085 59.025

Cable Segment
Existing LV 400.000 V Main L1L2L3 Owns 521100906005 SSEN SEPD Underground 1.9036071023191734 1.903

Joint Installation
Straight Existing LV 400.000 V L1L2L3 521100906005 SSEN SEPD Underground Surveyed

Cable Segment
Existing LV 400.000 V Main L1L2L3 Owns 521100906005 SSEN SEPD Underground 1.547736734719442 1.5477

Schematic Connector
LV Existing Blue Triangle Next Device


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Step 5 - A list of assets will populate on the side panel detailing every asset that the stream passes through.

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Uncontrolled if Printed



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The screenshot displays a GIS interface with a map on the left and a data table on the right. The map shows various electrical assets like 'Cable Segment' and 'Joint Installation' along roads such as Devonshire Ave and Eastfield Rd. One asset on Eastfield Rd is highlighted in pink, with a green arrow labeled '8' pointing to it. The data table on the right lists these assets with columns for ID, description, and status. A red box highlights the 'Export' button in the top right corner of the table. Another red box highlights a specific row in the table: 'Cable Segment Existing LV 400.000 V Main L1L2L3 Owns 521100906005 SSEN SEPD Underground 87.82434092924247 87.82434092924247'. A green arrow labeled '7' points to this row. A green arrow labeled '6' points to the 'Export' button.

Step 6 - This list can be exported to an Excel document if required by clicking **Export**. There are three options:

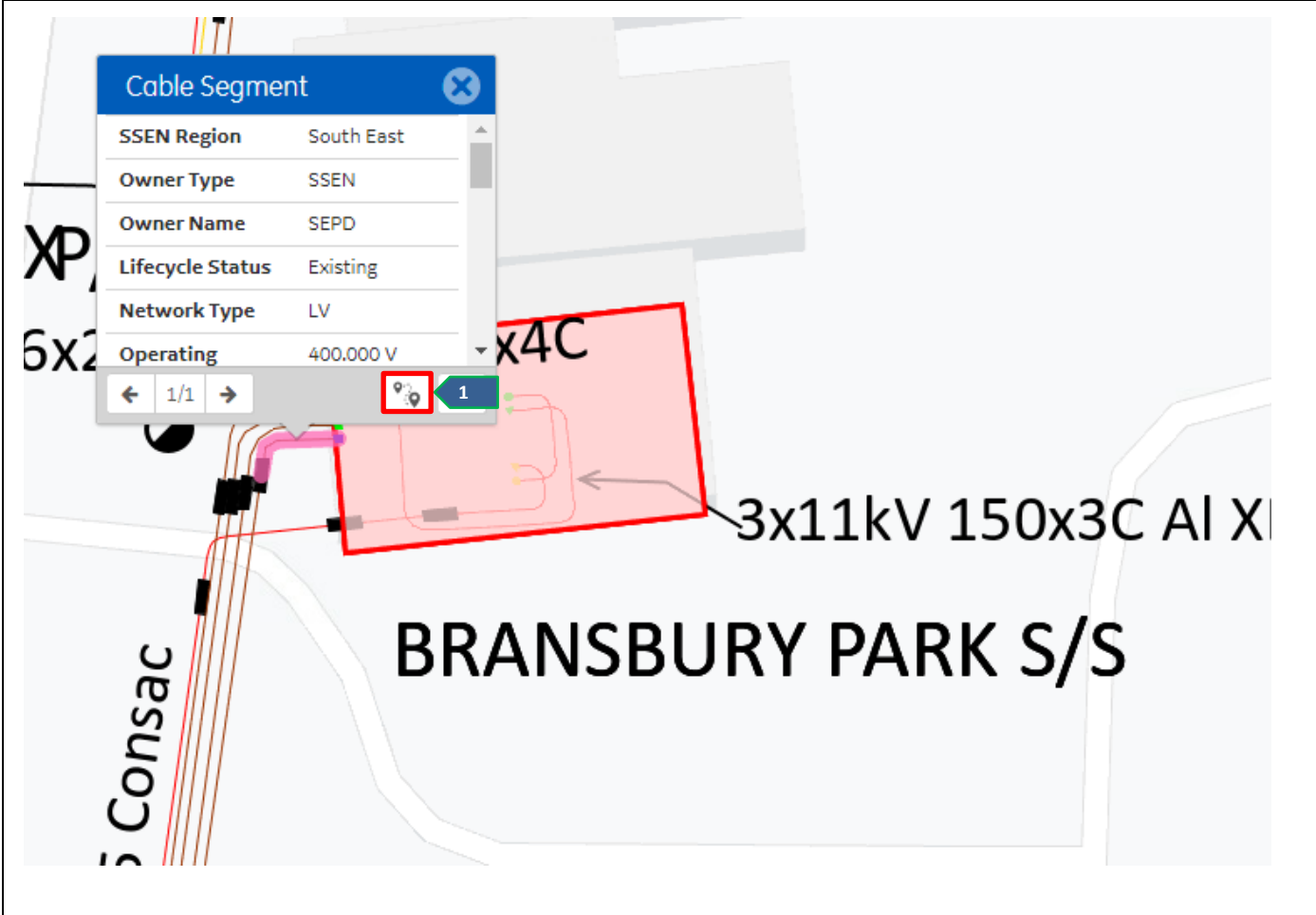
- **Export to XLSX** - Separates assets into tabs
- **Export to CSV** - All assets in one tab
- **Export to CIM** - A document that can be used with Power Analysis tools



Step 7 - Click on any of the assets in the list to view additional details.

Step 8 - The map will also highlight the selected asset in pink.

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Trace Downstream to Circuit Source



Step 1 - Select a **Cable Segment** from the **Substation** and click on the **Trace**  icon. This will then be indicated as the **starting point**  for the **Trace**.

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Trace

Trace downstream to customers ▾

LV ▾

L1L2L3 ▾


Cable Segment ✕

Clear Run

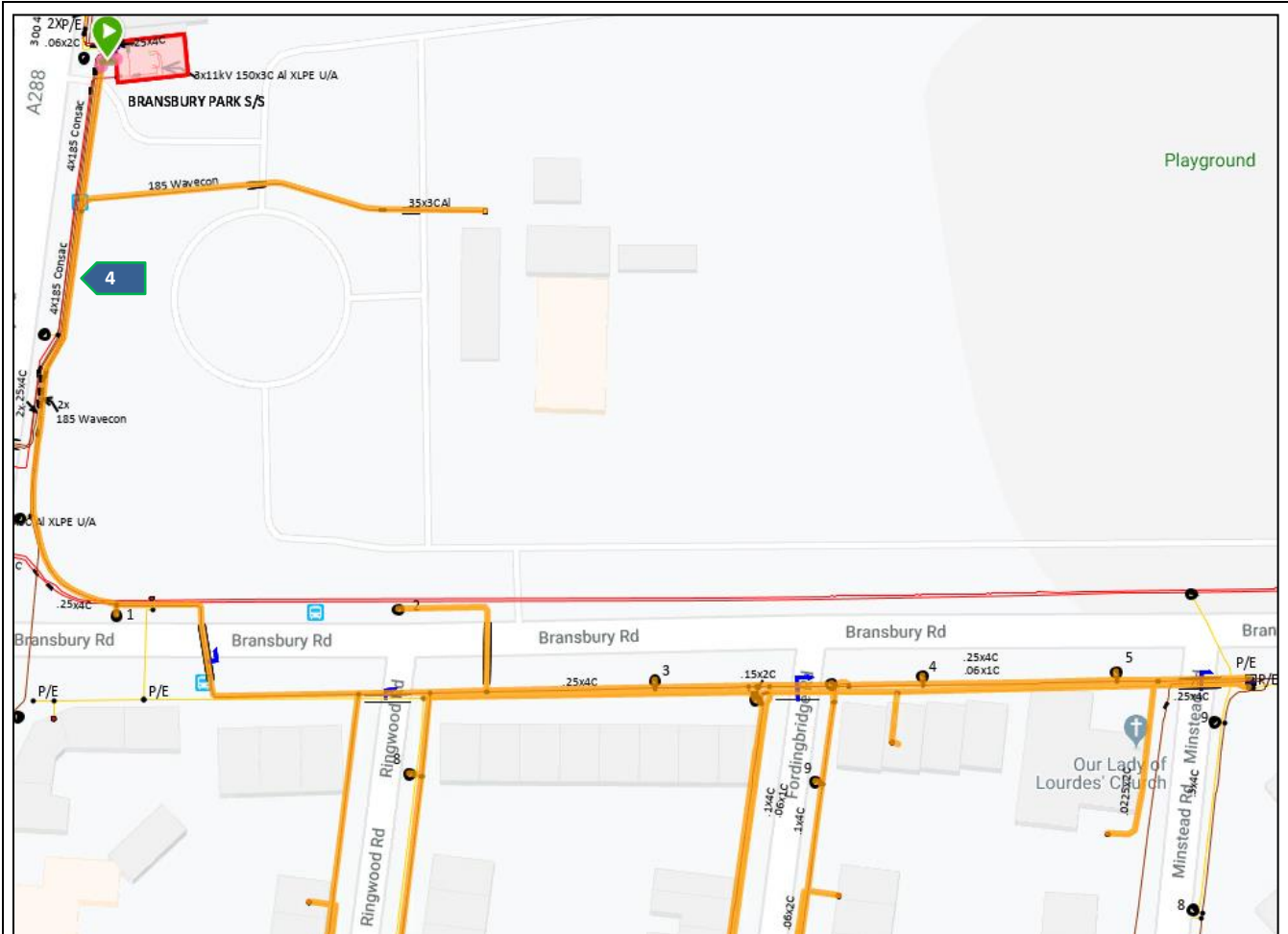
Step 2 - Update the Trace Parameters:

- **Trace downstream to Circuit Source**
- **Network Type:** LV, HV or EHV. The trace will **NOT** run if an incorrect **Network Type** is selected.
- **Phase:** Chose between L1, L2, L3 or L1L2L3 to start the trace

Step 3 - Click Run to start the **Trace**.

Note: The user can block directions the trace goes and set end points by using the **Block Nodes** icon  which is found next to the **Starting point** icon.

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Step 4 - Trace results will be shown in the **Map View** in Orange, showing **Network Connectivity**, showing all customers on the network.

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- Cable Segment**
Existing LV 400.000V Main L1L2L3 None 521100906007 SSEN SEPD Underground 2.8891234393447167 2.889
- Schematic Connector**
LV Existing Blue Square Next Device
- Cable Segment**
Existing LV 400.000V Main L1L2L3 None 521100906007 SSEN SEPD Underground 21.016124102564483 21.01 6
- Cable Segment**
Existing LV 400.000V Main L1L2L3 None 521100906007 SSEN SEPD Underground 24.495084153505125 24.49
- Cable Segment**
Existing LV 400.000V Main L1L2L3 Owns 521100906007 SSEN SEPD Underground 86.47368178446413 86.473
- Cable Segment**
Existing LV 400.000V Main L1L2L3 Owns 521100906007 SSEN SEPD Underground 130.15314096658247 130.1
- Schematic Connector**
LV Existing Blue Circle Next Device
- Cable Segment**
Existing LV 230.000V Service L1 Owns 521100906007 SSEN SEPD Underground 24.57077621982773 24.57077
- Cable Segment**
Existing LV 230.000V Service L1 None 521100906007 SSEN SEPD Underground 1.4292662453161062 1.42926
- Cable Segment**
Existing LV 230.000V Service L1 Owns 521100906007 SSEN SEPD Underground 3.349202890241199 3.349202

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Step 5 - A list of assets will populate on the side panel detailing every asset that the stream passes through.

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The screenshot displays a GIS interface with a map on the left and a data list on the right. The map shows a network of cables and structures, with one area highlighted in pink. The data list on the right contains several entries for 'Cable Segment' and 'Schematic Connector'. A red box labeled '6' points to the 'Export' button in the top right corner of the list. Another red box labeled '7' highlights a specific 'Cable Segment' entry in the list. A third red box labeled '8' highlights a cable segment on the map.

Step 6 - This list can be exported to an Excel document if required by clicking **Export**. There are three options:

- **Export to XLSX** - Separates assets into tabs
- **Export to CSV** - All assets in one tab
- **Export to CIM** - A document that can be used with Power Analysis tools

Step 7 - Click on any of the assets in the list to view additional details.


Step 8 - The map will also highlight the selected asset in pink.

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11 Sketch

- 11.1 Sketch is used to record information for personal use.
- 11.2 Examples include highlighting an area of network for others to check, to make a rough temporary record of work done, or many other tasks that could be aided by a simple sketch.
- 11.3 Sketch **must not** be used to record personal data in any form. Recording personal data would be a breach of the General Data Protection Regulation.

Sketch ✎

Step 1 - Click the **Sketch** icon  on the tool bar to open the sketch panel.

Step 2 - Select a tool to draw with:

-  **Point** - Mark points on the map in a choice of symbols.
-  **Arrow** - Draw an arrow in a selection of colours.
-  **Text** - Annotate different areas of the map.
-  **Line** - Draw a line in a selection of colours.
-  **Area** - Create a polygon area on the map.

Sketching

Submit Clear

Tools

○
↗
A≡
—
Ⓜ

Details

Task type *


Recipient *

Subject

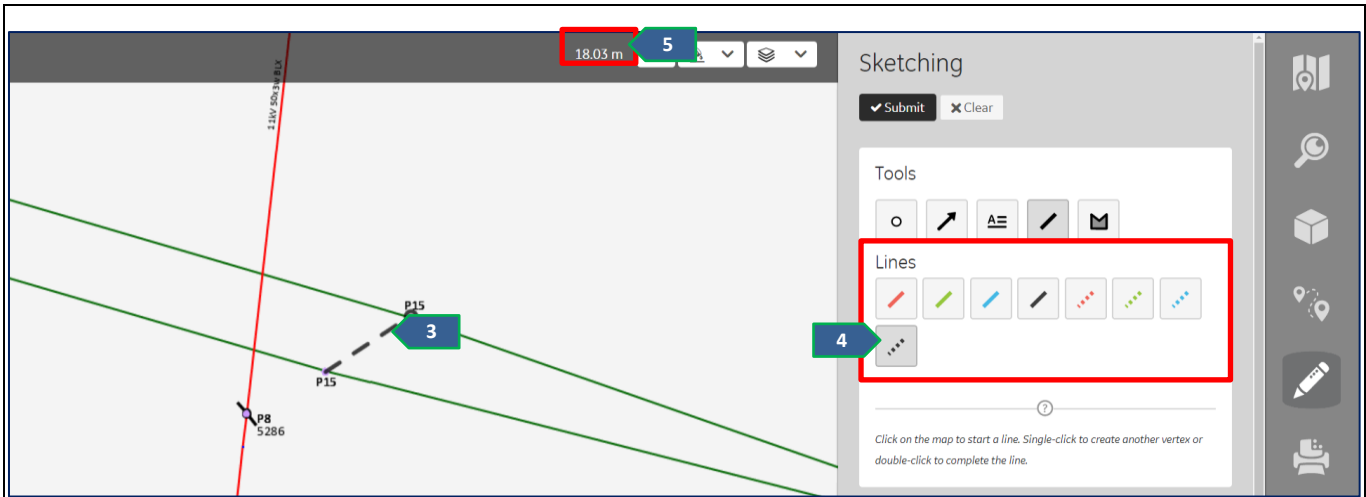
Id

Notes

* Required field



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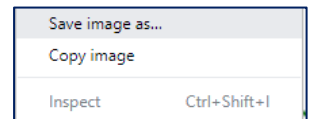
Step 3 - Click on the map to enter lines, points, arrows, areas or text as desired. Double clicking signifies the end of a line.

Step 4 - Each icon gives a selection of choices and colours to use.

Step 5 - Any lines, arrows or polygon shapes will either show the length or the surface area.

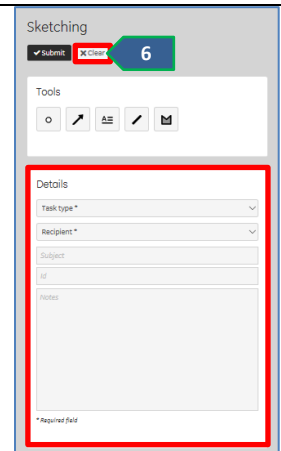
Note: Sketches are not saved to GIS, and will not appear in plots, so are lost if cleared or at the point of logoff from the system (i.e. when shutting down EO Web).

Note: Sketches can be saved by right clicking on the map and selecting **Save image as**.



Step 6 - Any marks or annotations can be cleared at any time. **Clear** will remove all sketching; **Delete** will remove the last part of the sketch.

Note: The **Submit** and **Details** sections are functionality that is not currently available.




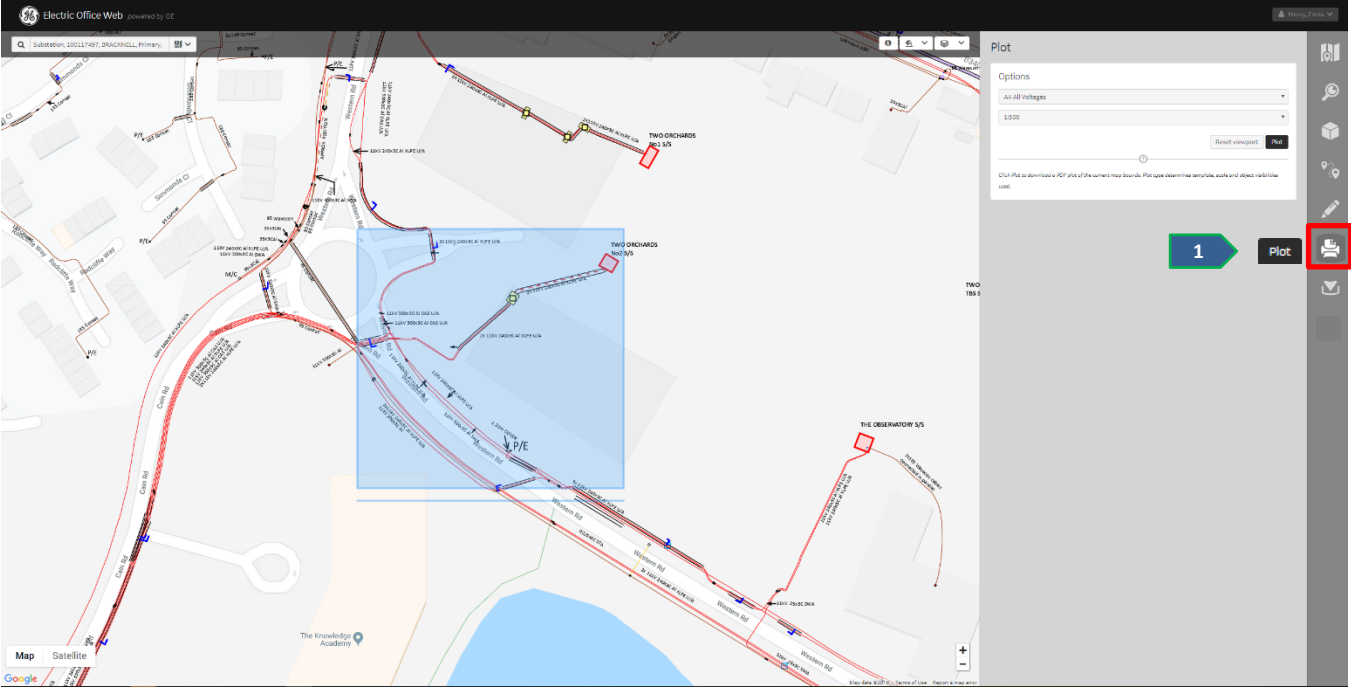
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12 Plot

12.1 The Plotting section of Electric Office will take a snapshot of the map and display it in a print friendly plot diagram using PDF format. This can be printed or exported into PDF and annotated with Adobe tools.

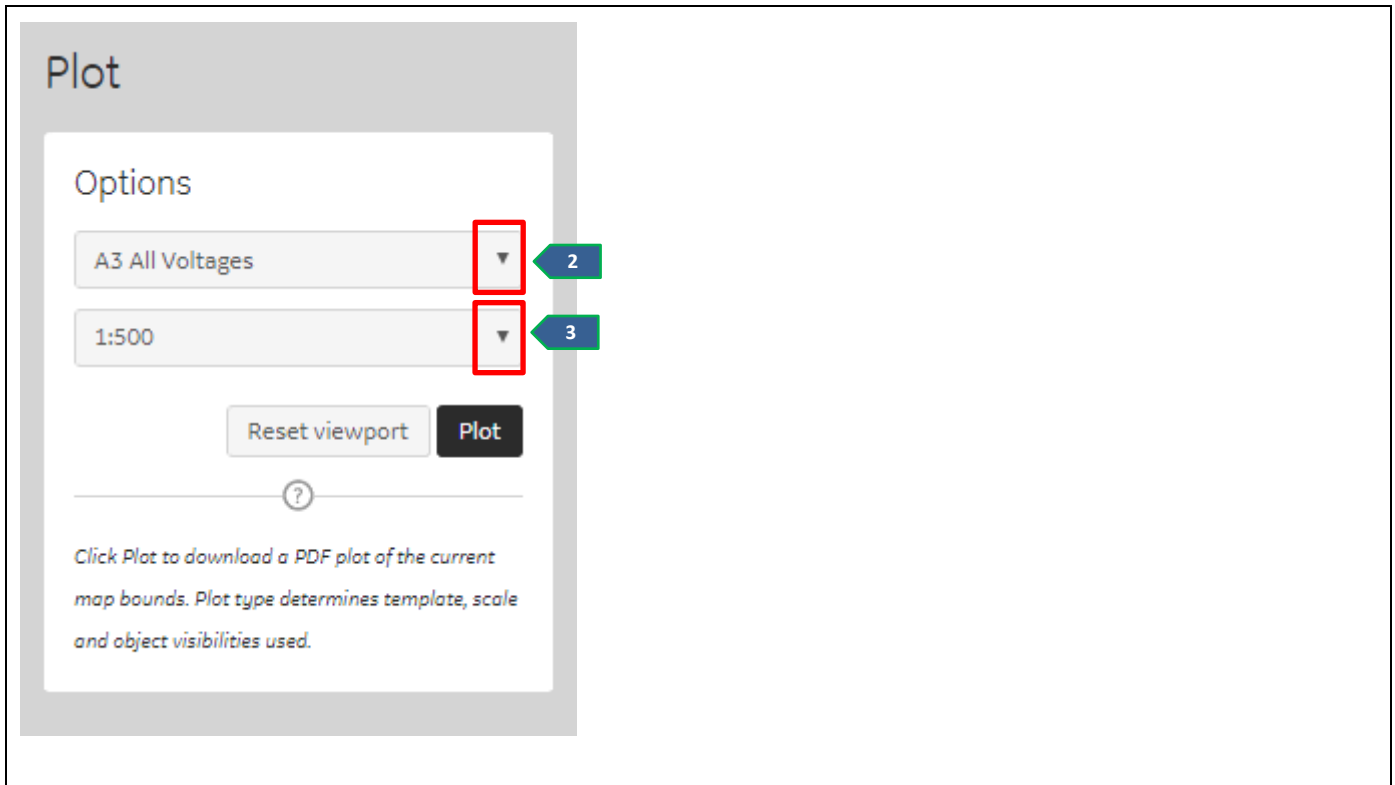
Plot





Step 1 - To prepare a document for Plot and Print click on the **Printer icon**  .


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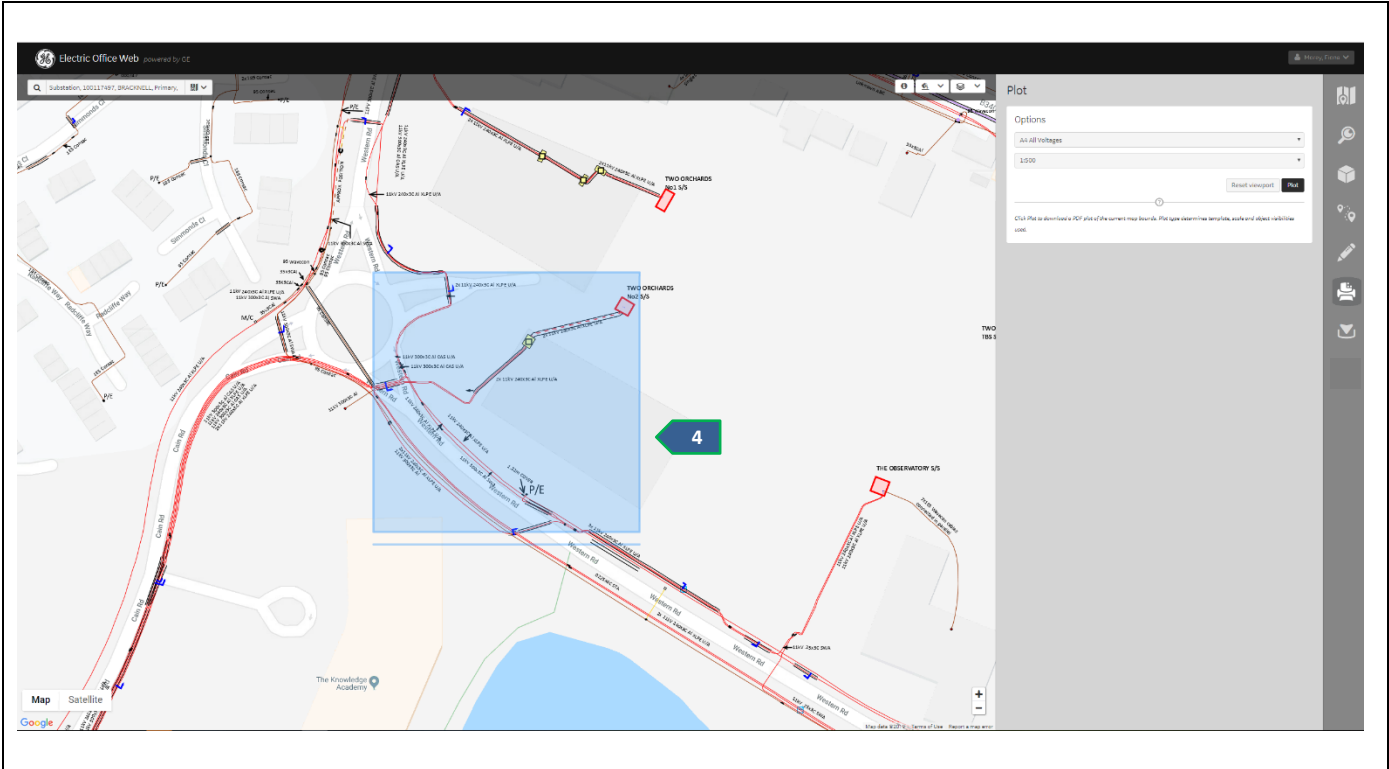
Step 2 - Choose from the plot options by clicking on the downward arrow and clicking on the option required:

- Paper sizes – A4, A3, A2, A1
- All Voltages
 - North – will show low and high voltage on one plot
 - South – will show low voltage on one plot and high voltage on another plot
- High Voltage – will show high voltage only
- Low Voltage – will show low voltage only
- LV Geo-Schematic will show the schematic picture on a white background
- No Network will show a plot with background mapping only

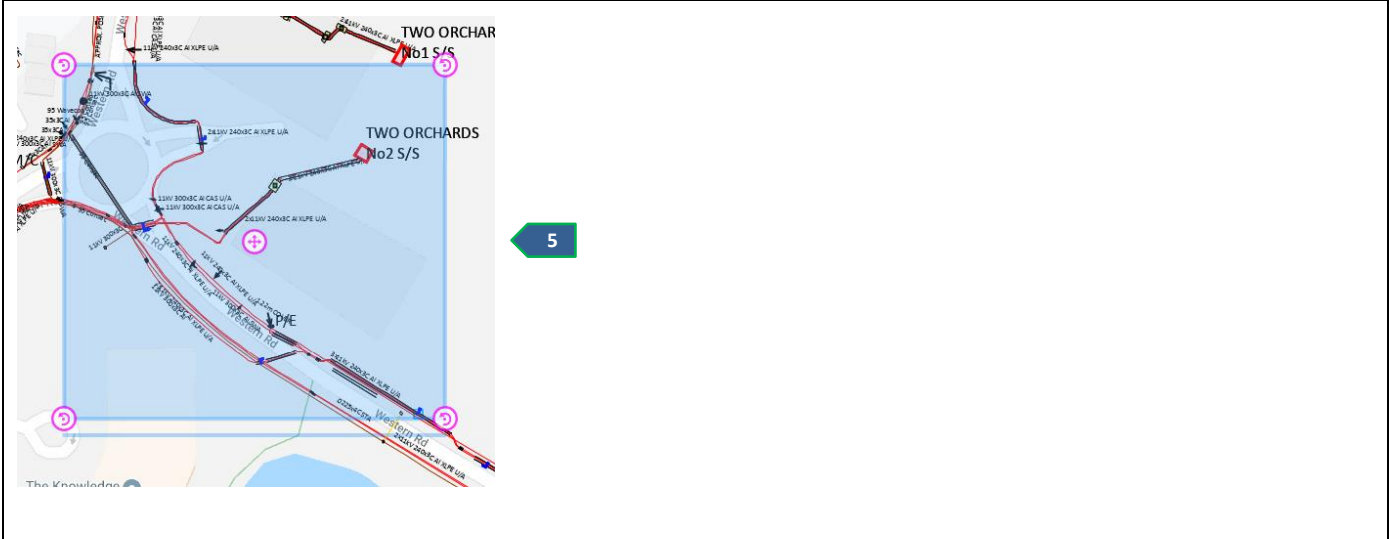
Step 3 – Choose from the **View Scale** options by clicking on the downward arrow and select the desired scale option.

Note: The **Reset viewport**  icon will move the blue box back to the original location when **Plot** was opened.



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Step 4 – A blue box will appear in the middle of the screen.

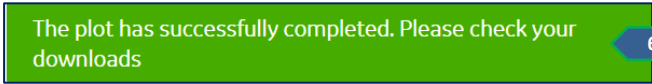


Step 5 – Click on the centre of the blue box to activate the plotting tools:


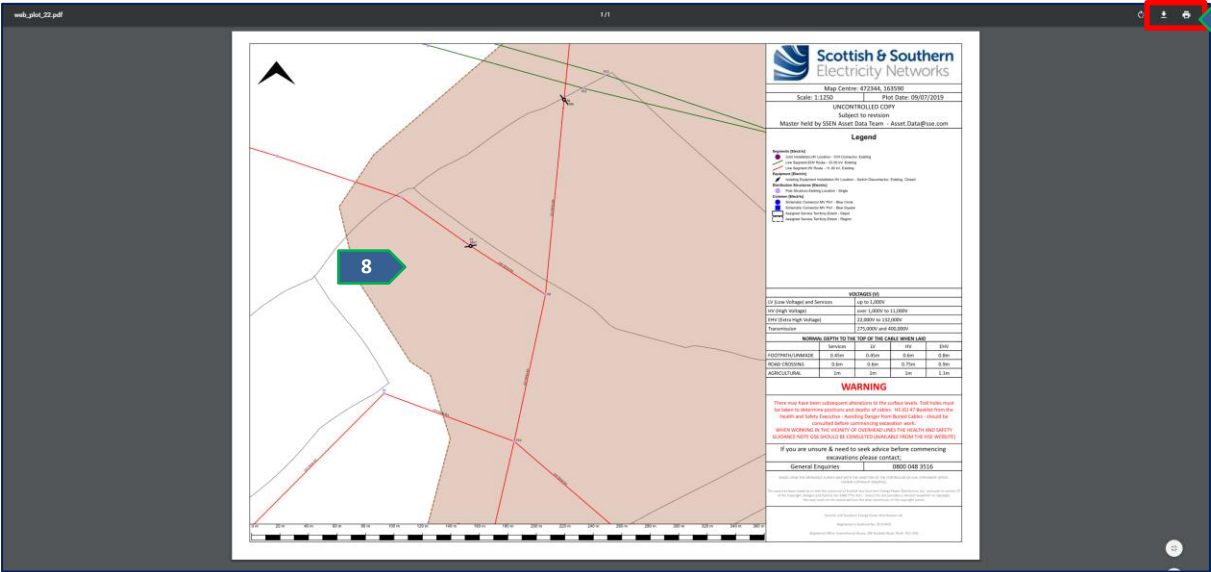
- Hover over the **central point**  and left click on the mouse to drag the blue box to the area to be plotted
- To change the direction of the plot, hover over the **rotate symbol**  on one of the corners.

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Step 6 – A green box will appear at the top of the screen.



Step 7 – A PDF will automatically be generated. This can be selected at the bottom of the screen.

Step 8 – The PDF will always show Background Mapping OS Master Map.

Note: Standard SSEN information will be included on the right hand side of the PDF. Information included covers: the symbols that are viewable on the plot, voltage information, warning information and contact details.

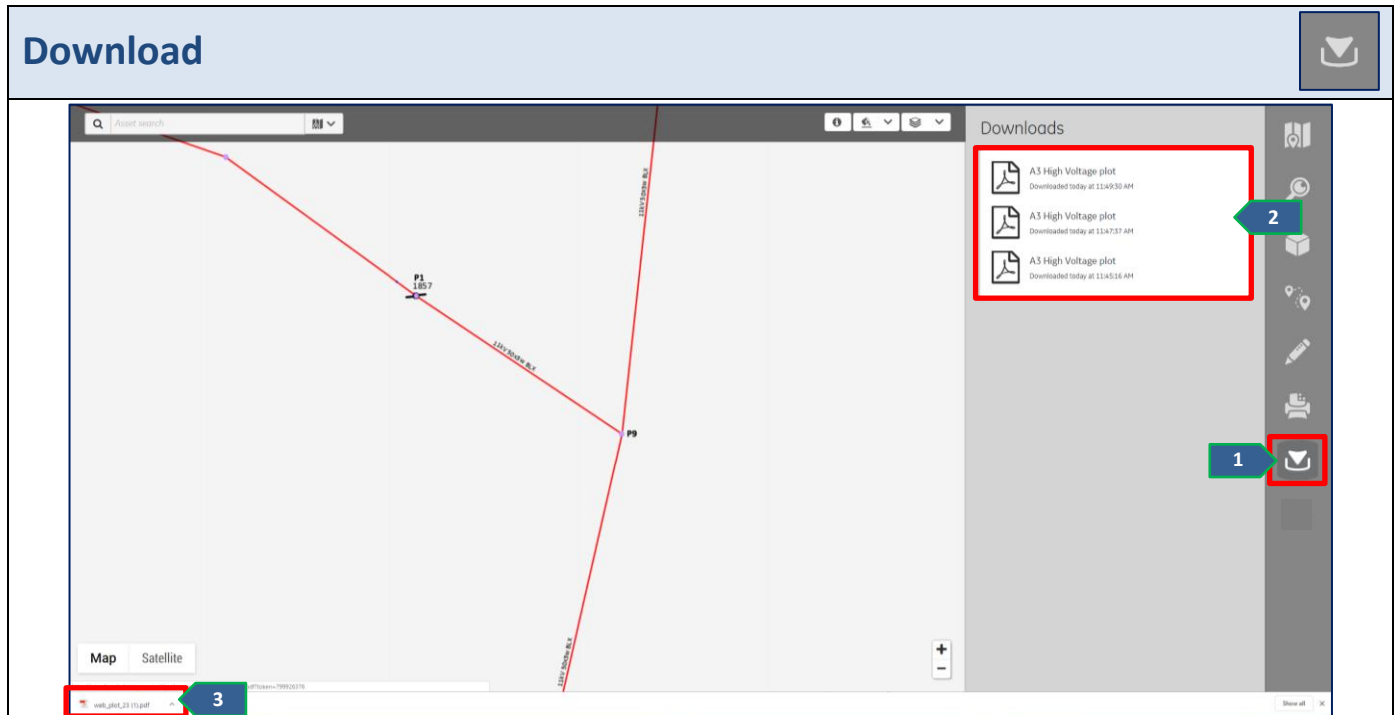
Step 7 – The user can Print  or Save  their PDF by clicking on the relevant icon.

Note: Once the session has ended, any Plots are lost if not saved by the user manually.

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13 Download

13.1 The Download section of Electric Office will store all the PDF and Excel downloads that have taken place while the application has been open in that session.



Step 1 - Click the **Download** button .

Step 2 - This will allow the user to view all the outputs of work completed for the session such as **Plots** and **Exports** (Plots are PDF documents; Exports are Excel documents).

Step 3 - Clicking on a document will generate the document again at the bottom of the screen – this can then be saved or printed.

Note: Once the session has ended, any Downloads are lost if not saved by the user manually.

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14 Appendix

14.1 Below is a selection of additional information to provide more in-depth knowledge of Electric Office.

Layers

- Each layer has specific features linked to it.
- Below is an in-depth list of the features associated with each layer.

LV / HV / EHV	Background Mapping
<ul style="list-style-type: none"> 3-Winding Transformer Installation Cable Annotation Isolating Equipment Installation Protective Equipment Anno Composite Switch Anno Connector Segment Installation Connector Point Installation Cable Segment Connector Point Anno Isolating Equipment Anno Protective Equipment Installation Power Transformer Anno Power Transformer Installation 3-Winding Transformer Anno Wire Annotation Service Point Anno Connector Annotation Regulating Equipment Installation Service Point Wire Segment Regulating Equipment Anno Pillar/Link Box Anno (LV only) Pillar/Link Box (LV only) 	<ul style="list-style-type: none"> 1:250k Colour Raster Record VectorMap Local Raster Record OS MasterMap Area OS MasterMap Line OS MasterMap Point OS MasterMap Text

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Symbology

- Below is a more extensive list of symbology viewable in Electric Office, including internal and external assets.

Electric Office Symbology				EHV (Extra High Voltage)		HV (High Voltage)		
LV Supply Point 	Street Furniture 	Supply Location – Other 	Pot End 	22kV 	33kV 	2–3.3kV 	6.6kV 	
Capped End 	Schematic Connectors 	Substation 	Straight Joint 	66kV 	132kV 	11kV 		
Link Box 	Pillar 	Breach Joint (Tee) 	Service Breach Joint (Connector) 	275kV 	320kV 	LV (Low Voltage)		
OH Connector 	Trifurcating Joint 	Sealing End 	Wall Box Joint 	400kV 	Single Phase (230v) 		Three Phase (400v) 	
Single Pole 	H Pole 	3 Poles 	Tower 					Split Phase (460v)
Non Electrical item (Manhole) 	Switch Disconnector /OH Air Break 	Circuit Breaker 	Pole Mounted Transformer 					
ASLs 	Pole Termination 	Stay 	Flying Stay 					
Surge Diverter 	PME Earth 	Neutral Earth 	Cross Section 					
Ducting 	Embedded Network 	National Network 	Other Network 					
Oil / Gas Gauge 	Oil / Gas Tank 	Balancer 	Regulator 					
HV Assumed Route 	LV Assumed Route 	Oil / Gas Pipeline 	Pit 					

Internal Symbology			
S/S Transformer 	Fuse Switch Disconnector 	Metal clad Switch Disconnector 	Links
Busbar 	Fuses 	Circuit Breaker 	Earth Switch Open
Earth Switch Closed 	Isolating Contacts 		