

# Impulse Geophysics

## Online Roadshow Instruction Manual



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Rev 1



**Specialists in high-speed, non-destructive surveying of transport networks.**

**With emphasis on Impulse Radar and Digital Video Technique**

## Quality Information

Prepared By	Checked By	Verified By	Approved By
Daniel Bridgman	Daniel Wheatley	Bob Milligan	Bob Milligan

## Revision History

Revision	Revision Date	Details	Authorised	Name	Position
1	15/03/24	1 <sup>st</sup> Edition	DB	Dan Bridgman	Project Manager

## Prepared for:

-

## Prepared by:

Daniel Bridgman

Project Manager

Tel: 01234 309444

Email: [dan@impulsegeo.com](mailto:dan@impulsegeo.com)

IMPULSE GEOPHYSICS LIMITED

19 Kingsway

Bedford

Bedfordshire

MK42 9BJ

United Kingdom

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# 1. Introduction

Impulse Geophysics Limited has been a leading supplier of Video and GPR to the transport sector for over 25 years.

As times have evolved Impulse Geophysics has listened to the needs of its clients and developed an online, easy access and convenient tool for displaying and querying their data.

## 2. Getting Started

Impulse Geophysics Online Roadshow has been designed so that it can be accessed by anyone, anywhere.

### Compatibility

Online Roadshow is supported by the following browsers:

- Google Chrome
- Apple Safari
- Microsoft Edge

\*Microsoft Edge is recommended.

The above list applies to Desktop and Mobile versions.

Please note the Mobile Versions may not include the full list of features.

### Opening a Survey

You will have been provided with the following:

- URL
- Username
- Password

- 1) Open your chosen browser and type in the provided URL into the address bar.
- 2) Once loaded you will be greeted by a login screen. You will see the Project name and also two blank boxes for Username and Password. *The Username is not case sensitive, but the password is.*
- 3) Once you have entered the Username and Password click “Log in”
- 4) You will then be greeted by an Overview map of your survey.

## 3. Overview Map

### Navigating the Map

The Overview map provides a view of the entire survey and the associated background mapping.

### Resetting the Map

You can reset the map at any time by clicking the “Reset” button at the top of the Map window. The button looks like this:



### Scrolling and navigating

This is done by a Left-Click and hold and then physically dragging the map.

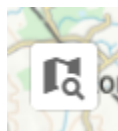
### Zooming in and Out

This can be done using the zoom tools in the top left of the map window or by using the scroll wheel on your mouse.

The zoom buttons on the map window can be seen below:

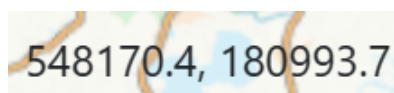


You can also Zoom all the way out to the full map extents by pressing the button in the top left of the map window. Button shown below:



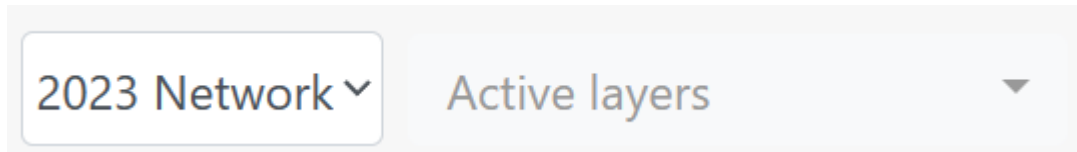
### Eastings and Northing

This can be seen in the top right corner of the map and changes as you move around

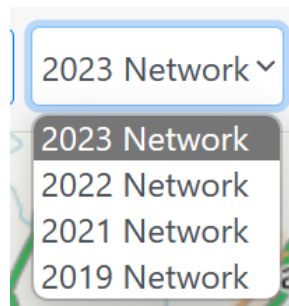


## Survey Layers and Active Layers

In the top corner of the Map element you have a series of dropdowns.

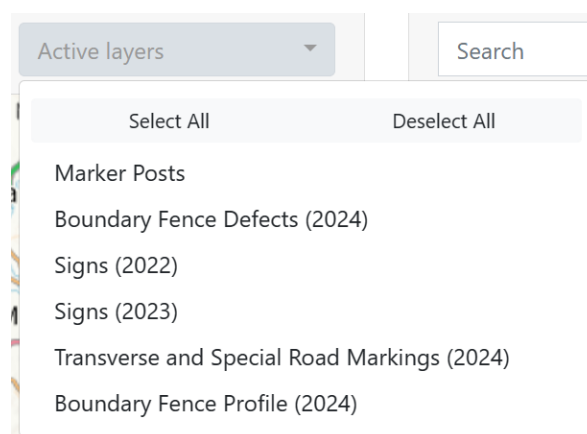


The Left dropdown list is to switch between the base shapefiles used for that particular survey/year. By default the latest layer available is selected. For example:



*Note: there may only be one option here. This is due to the overall shapefile not changing or there has been no repeat survey.*

The Right dropdown is to view any geospatial asset layers that have been loaded into the survey. For example:



These are asset layer which are project and user specific.

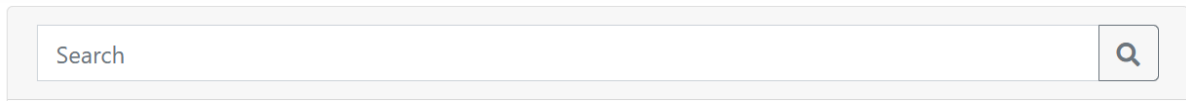
To toggle these “On” and “Off” you can Left-Click on the applicable layer. A tick will show when a layer is enabled and no tick when disabled.

By default all layers are disabled once a page is loaded for performance reasons.



## Search Function

In the top right corner there is a search bar.

A horizontal search bar with a light grey border. Inside the bar, the word "Search" is written in a light grey font. On the right side of the bar, there is a magnifying glass icon inside a square button.

This can be used to search for the following:

- HAPMS or and Section Referencing. Eg “0100M1/100”
- Easting and Northing Coordinates (Comma separated 6 figure). Eg “000000, 000000”
- Asset ID. Eg “MP100/1A” You must have the layer turned “On” to make features searchable.

Asset ID’s vary from dataset to dataset so it will need to match exactly what is in the original data.

Once a successful search is complete it will highlight the item on the map.

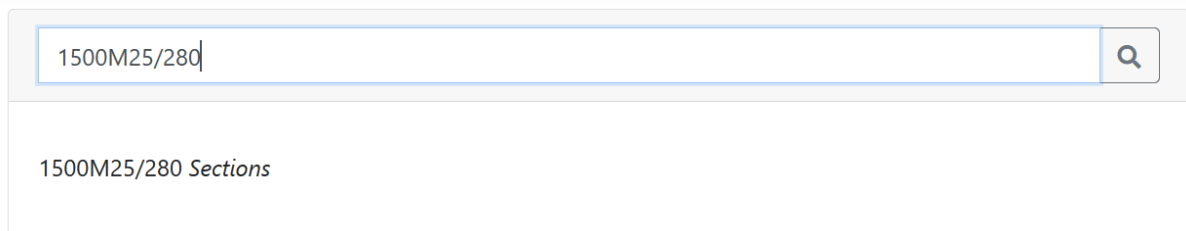
HAPMS or and Section Referencing will appear Grey on the Map

Coordinates will appear as a black cross and then a Yellow Dot once selected

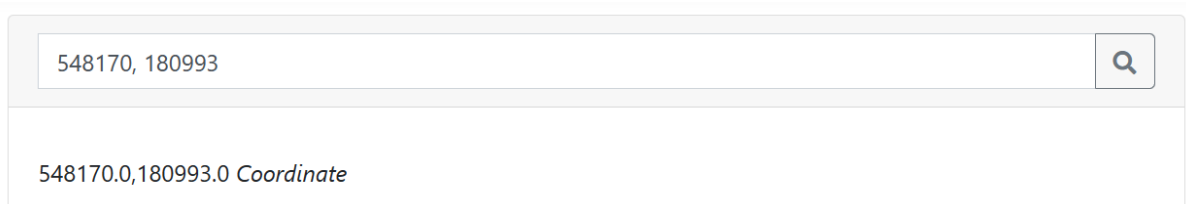
Asset ID’s will appear as a black cross and then a Yellow Dot once selected.

Some example searched can be seen below:

HAPMS Section:

A search bar interface showing an example search. The input field contains the text "1500M25/280". Below the input field, the search results are displayed as "1500M25/280 Sections".

Coordinates:

A search bar interface showing an example search. The input field contains the text "548170, 180993". Below the input field, the search results are displayed as "548170.0,180993.0 Coordinate".

Asset (Markerposts):

M25\_158/6A Marker Posts

*Note: The asset you are searching for has to have had its features enabled in the database that allow dynamic searching. If the phrase you are searching for returns no result get in touch with Impulse Geophysics and we can assist you by getting it enabled.*

## 4. Opening a Video

### Choosing a Video to open

There are two ways to open a video.

#### Video Launched from the Map

To open a video from the maps you will need to physically navigate to the section you are looking for. See Page 7 for navigating the overview map.

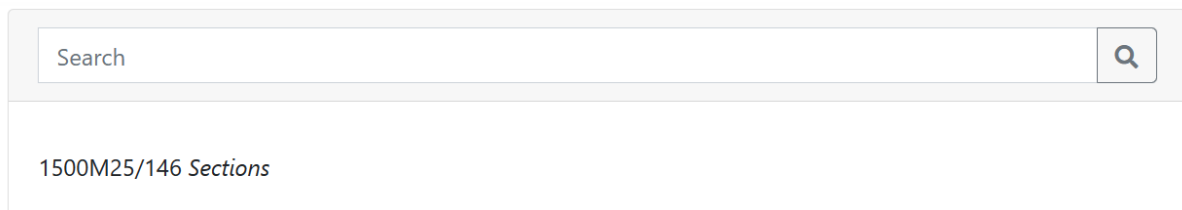
Once you find the section you require Left-Click on the shape on the map.

This will then load the selected section into the Search window on the right.

#### Video Launched from the Search Function

You can search for a particular section in the search box and this will have the same effect as above.

Once you have used either of the above methods for opening a video the Section will appear in the Search Window as seen below:



The screenshot shows a search window with a search bar at the top containing the text "Search" and a magnifying glass icon. Below the search bar, the text "1500M25/146 Sections" is displayed, indicating the number of sections found.

Left-Clicking on the section will open the list of available video for the section. This is in order of most recent to least recent. See example below:

Search			Q
1500M25/146 Sections			Q
<b>direction</b>		ACW	
<b>length</b>		1615	
Survey	Xsp	Direction	
2023	CL1	Positive	
2023	CL2	Positive	
2023	CL3	Positive	
2023	CL4	Positive	
2022 Night	CL1	Positive	
2022	CL1	Positive	
2022	CL2	Positive	
2022	CL3	Positive	
2022	CL4	Positive	
2021	CL1	Positive	
2021	CL2	Positive	
2021	CL3	Positive	
2021	CL4	Positive	
2020	CL1	Positive	
2020	CL2	Positive	
2020	CL3	Positive	
2020	CL4	Positive	
2019 Night	CL1	Positive	

Left-Click on the required video and it will load into the Video player.

## 5. Video Player

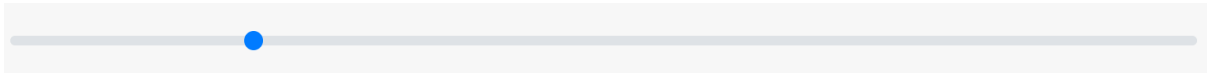
### Playback Tools

In the bottom left corner of the Video window there are playback tools which look like the following:



- 1 - Play Backwards
- 2 - Stop
- 3 - Play Forwards
- 4 - Backward Frame
- 5 - Forward Frame
- 6 - Playback Speed (Frames Per Second)

There is also a slider to the left of the tools which will allow you to move through the video quicker.



### Scrolling and Zooming

In the Video window you are able to scroll and zoom in on the image to see items in more detail.

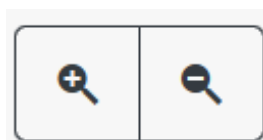
#### Scrolling

This is done by a left-clicking and hold and then physically dragging the map.

#### Zooming

This can be done using the zoom tools in the bottom of the video window or by using the scroll wheel on your mouse.

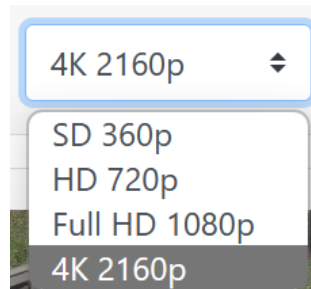
The zoom buttons on the video window can be seen below:



## Switching Resolutions

All of our surveys are captured in 4K and then we create lower resolutions from this for performance reasons.

You can switch between the available resolutions using the drop-down as seen below:

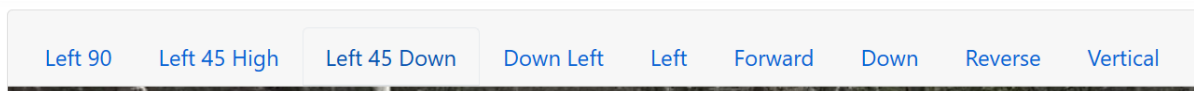


*Note: Some views may not be available in 4K if not required or specified by the client.*

## Camera Views

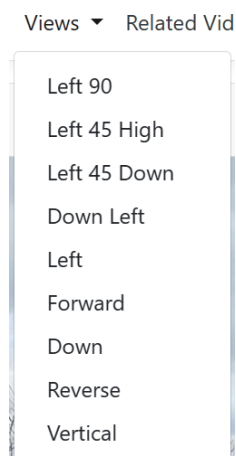
There are multiple camera views collected for most Video Surveys and these are all available in the Online Roadshow.

You will see a list of the available camera views for that particular video in the top of the Video Window.



To switch camera view left-click on the view you require. This will then load that view into the main window.

You can also switch views from the dropdown in the top toolbar as seen below:



## Thumbnails

Thumbnails can be found at the bottom-left of the Vide Player. There is a thumbnail for each camera view that is available for that specific video. They will look like this:



You can Left-Click on any of these to load that particular view into the main Video Window.

## Map Window

On the right-hand side there is a large Map Window.

This displays the current position, current section and background mapping.

The current position is dictated by a Green Kite Logo. This can be seen below:

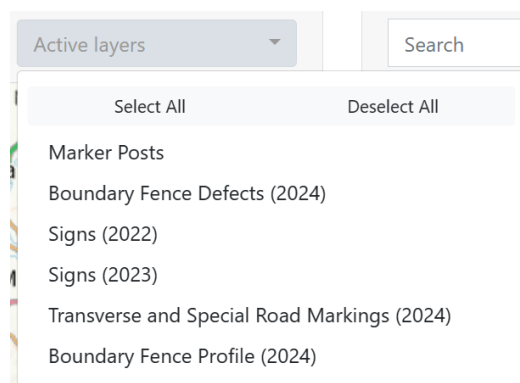


This map is navigated exactly the same as the Overview Map. Details of how to do this can be found on Page 7.

Each Section is displayed as a different coloured line on the map.

On this mapping you are able to scroll around and Left-Click on any other Section and the Video will jump to that point.

In the Map window we can also view any geospatial asset layers that have been loaded into the survey. For example:

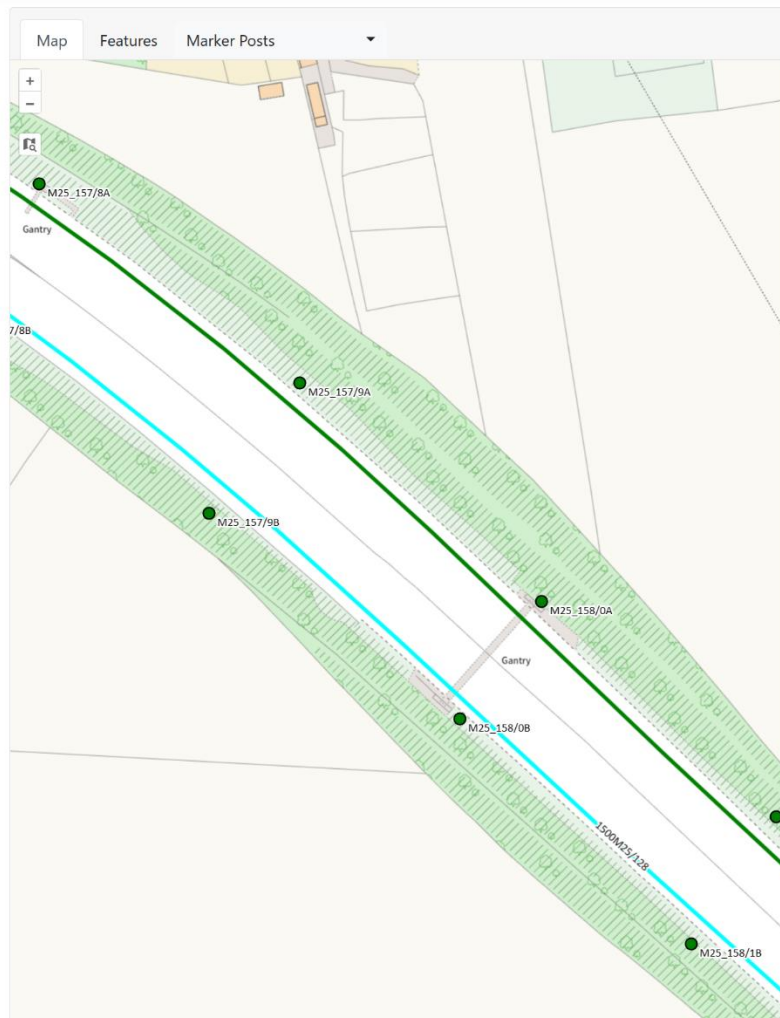


These are asset layer which are project and user specific.

To toggle these “On” and “Off” you can Left-Click on the applicable layer. A tick will show when a layer is enabled and no tick when disabled.

By default all layers are disabled once a page is loaded for performance reasons.

See an example below of the Map window with a Markerpost layer turned on:





## Properties Window

The Properties Windows can be found in the bottom right of the Video Player. This is where all the details of the survey can be found. It will look like the image below:

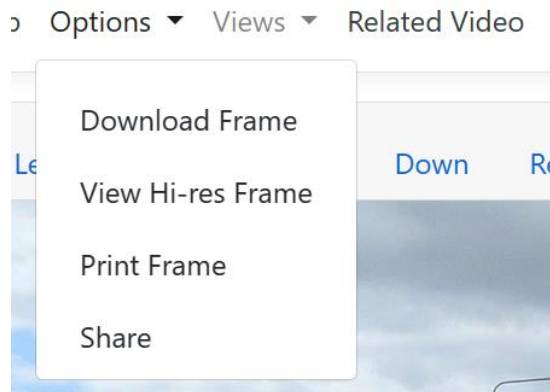
Properties	
Section Name	1500M25/127
Section Chainage	982.8 m
XSP	CL1
Section Length	1164 m
Section Direction	Positive
Frame	12459
Chainage	24537.3 m
Location	545822.936, 200426.267
Survey Name	M25 File8
Survey Date	2023-03-27
Survey Length	120498.2 m
Frame Separation	2.0 m
Frame Count	61179

From the top:

- 1 - Current Section Name
- 2 - Current Section Chainage
- 3 - Current Section XSP
- 4 - Total Section Length
- 5 - Section Direction
- 6 - Impulse Geophysics Video File Frame
- 7 - Impulse Geophysics Video File Chainage
- 8 - Current GPS Location
- 9 - Impulse Geophysics Internal File Name
- 10 - Video Capture Date
- 11 - Impulse Geophysics Video File Total Chainage
- 12 - Video Frame Separation
- 13 - Impulse Geophysics Video File Total Frame Count

## 6. Video Options

These can be accessed from the Toolbar at the top of the Video Player.



### Download Frame

This is a feature that allows the user to download the specific frame they are looking at.

Left-Click on “Download Frame” and it will automatically download to the folder that is set in your browser settings.

### View Hi-Res Frame

This is a feature that allows the user to load the highest resolution frame in a new window.

Left-Click on “View Hi-res Frame” button and it will open the Hi-Res frae in a new browser tab

### Print Frame

This is a feature that allows the user to print the current window including Map and Properties..

Left-Click on “Print Frame” button and it will open up the Print Wizard where you can configure it to your requirements.

### Share

This is a feature that allows the user to copy the current URL for sharing with another user.

The URL is total unique and will allow the user its shared with to jump to that exact video file and frame.

Left-Click on “Share” button and it will open a small window with the URL link.

## Related Video

This feature allows you to switch to any other video related to that section at that specific location.

Left-Click on “Related Video” and it will pop-up a window like the one below:



This is a list of all the video available for that section at that location.

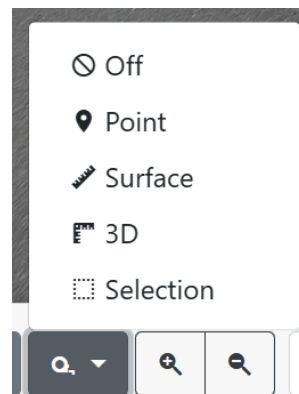
This is especially useful for looking at multiple XSP's of a section and flicking between them.

It is also useful for checking an identical location from previous years.

## 7. Video Tools

These are a set of tools that are available to allow the user to query the Video.

These tools can be found on the toolbar below the Video Window (just to the right of the playback controls). There is a Tape Measure Icon and once Left-Clicked opens a small sub-menu that looks like this:



*Note: Currently the Point, Surface and 3D are only available on the Forward View.*

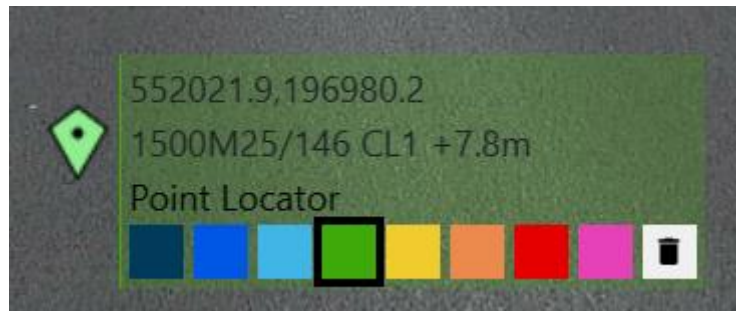
### Point

The Point Locator allows the user to place a pin anywhere on the video frame (within the red area) to calculate the exact position of something.

Once enabled it will look like below:



You can move the point locator by a Left-Click and hold and then physically dragging it around the image.



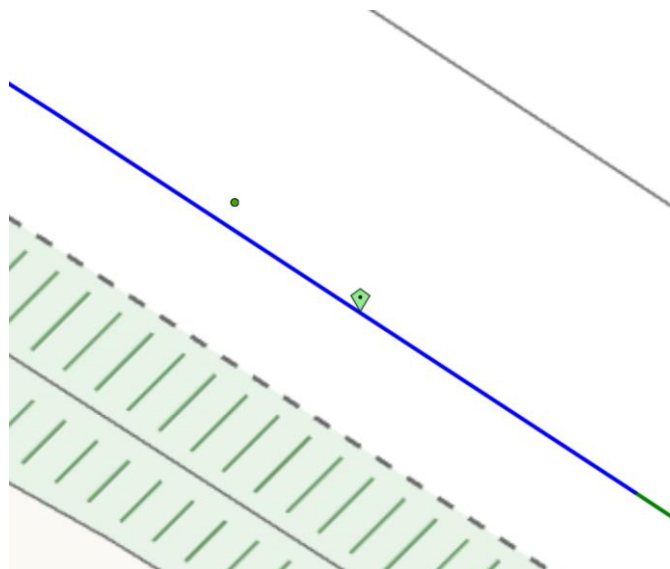
The information it displays is:

- GPS Location
- Section
- Section XSP
- Section Chainage

You are also able to change the colour and rename the Point to user preference.

This Point Locator is also translated onto the Map Window.

You will see a small dynamic dot on the Map that corresponds to the same location on the Video. This will look like the example below:



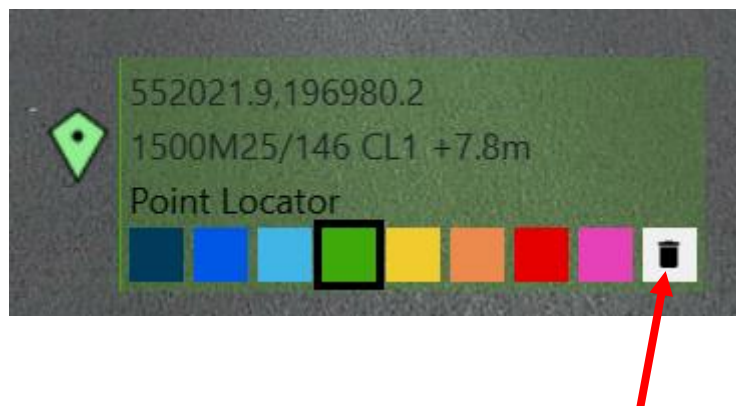
Once Point is enabled you will see another button appear on the toolbar



This will allow the user to add multiple Point Locators to the same window.

These can be customised with different Colours and Names.

If you want to remove any additional Points you can click on the bin icon as shown below.



## Surface

The Surface tool allows the user to measure anything on the pavement surface (within the red area) to calculate the length between two points.

It will provide you with 2 Point Locators and a measurement between the two. This will look something like below:



These can also be customised with different Colours and Names.

These two points will also be shown on the map as like the Point Locators.

This is a great tool for measuring things such as Carriageway Width.

It is also useful for measuring Road Markings and Symbols.



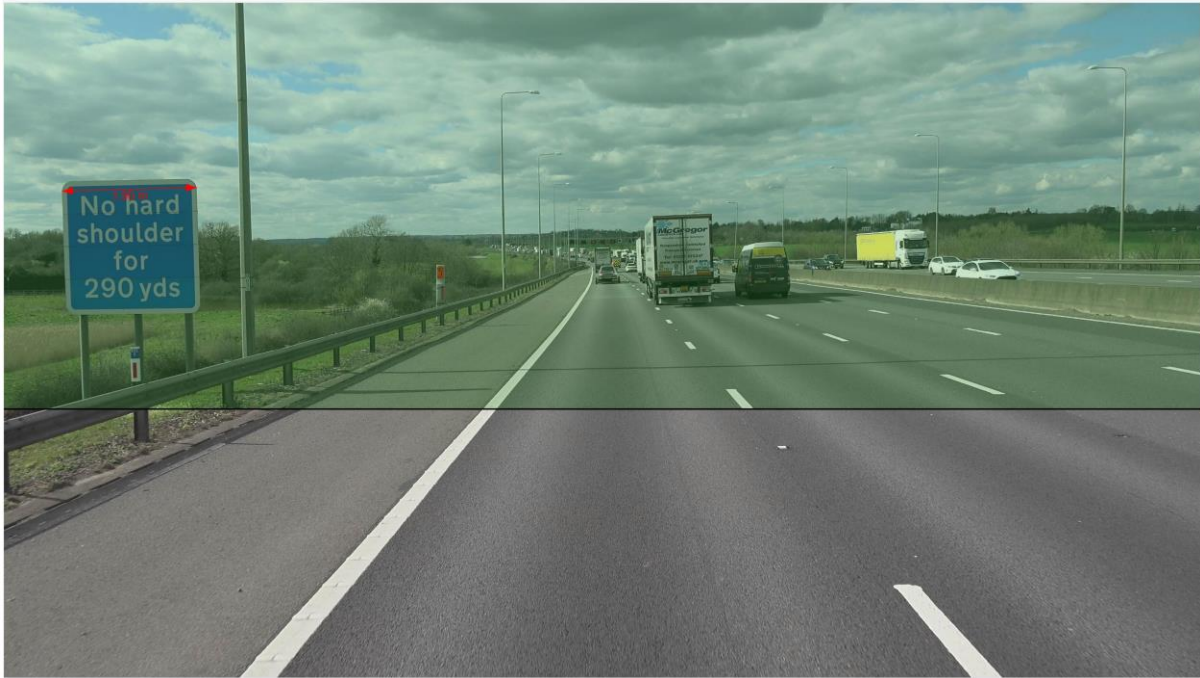
### 3D

The 3D tool allows the user to measure anything that is on the Vertical Axis such as Sign Posts.

Once you Left-Click the “3D” button a green depth bar will appear on the Video Window.

How to measure an item:

- 1) Set the Green Depth Bar to the location that is perfectly 90 degrees to the base of the asset if you were to stand perfectly in the middle of the frame. Like the example below:



*This is important to get accurate measurements.*

*If the asset is up or down a cutting the user will need to take this into consideration.*

*The easiest way to visualise is place yourself in the middle of the carriageway facing the direction of travel. If you were to perfectly turn 90 degrees to the left or the right would the centre of the asset, be directly in front of you.*

- 2) You can now Left-Click and Hold to drag the measurement bar from one side of the target to the other. The depth will then be displayed dynamically.

*Note: There are limitations to the 3D measure tool that prevents the measurement of larger items such as Bridge Height.*

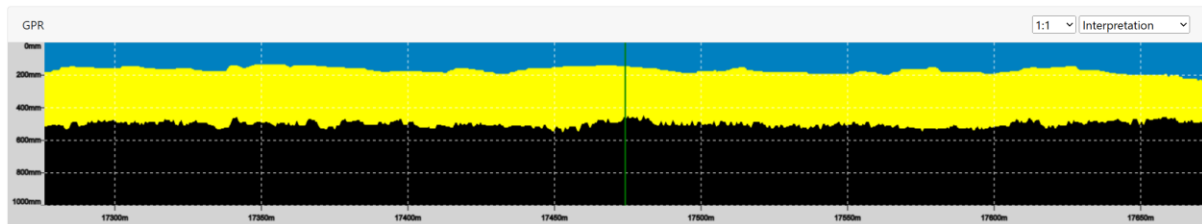


## 8. GPR (Ground Penetrating Radar)

If GPR was chosen as part of the survey this will be displayed.

The GPR to accompany your Video can be found directly underneath the Video Window.

See an example below:



The Green Vertical Line on the GPR is the current position at the centre of the Vertical Camera View.

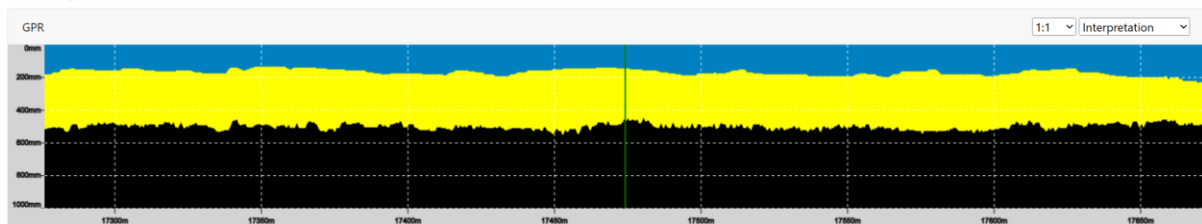
With the GPR you have a few options which can be found in the top corner of the GPR Window



Here you can change the scale and what is displayed from the GPR.

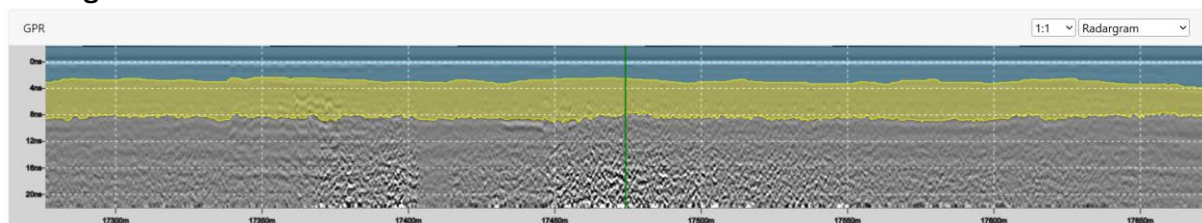
See examples of each below:

### Interpretation



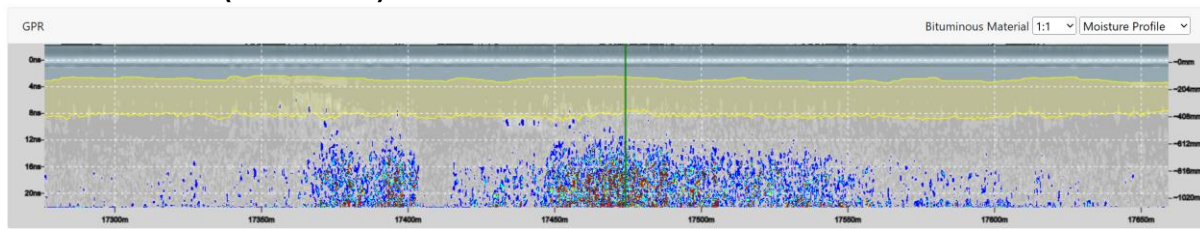
Depths shown in mm (Millimetres)

### Radargram



Depths shown in ns (Nano Seconds)

### Moisture Profile (if available)



Depths shown in mm (Millimetres) and ns (Nano Seconds)

The chainage displayed along the X-Axis is related to the Chainage in the Properties Window.  
See Page 17 Item 7.

## 9. Asset Management

Coming Soon