2

MANCHESTER | URBAN DESIGN | LAB

MUD-Lab Toolkit
Google Earth Pro Maps

This is a short handbook about Google Earth as a source of basemaps. Digimap is our preferred map source and you are expected to use it as long as you can obtain the maps from it. However, in some cases you might need to use Google Earth for international case studies. This is a handbook to help you in this.

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The MUD-Lab Toolkit

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To reference this MUD-Lab Toolkit please use the following:
'Manchester Urban Design LAB (2020) '***MUD-Lab Toolkit: Google Earth***' accessible at www.seed.manchester.ac.uk/mudlab

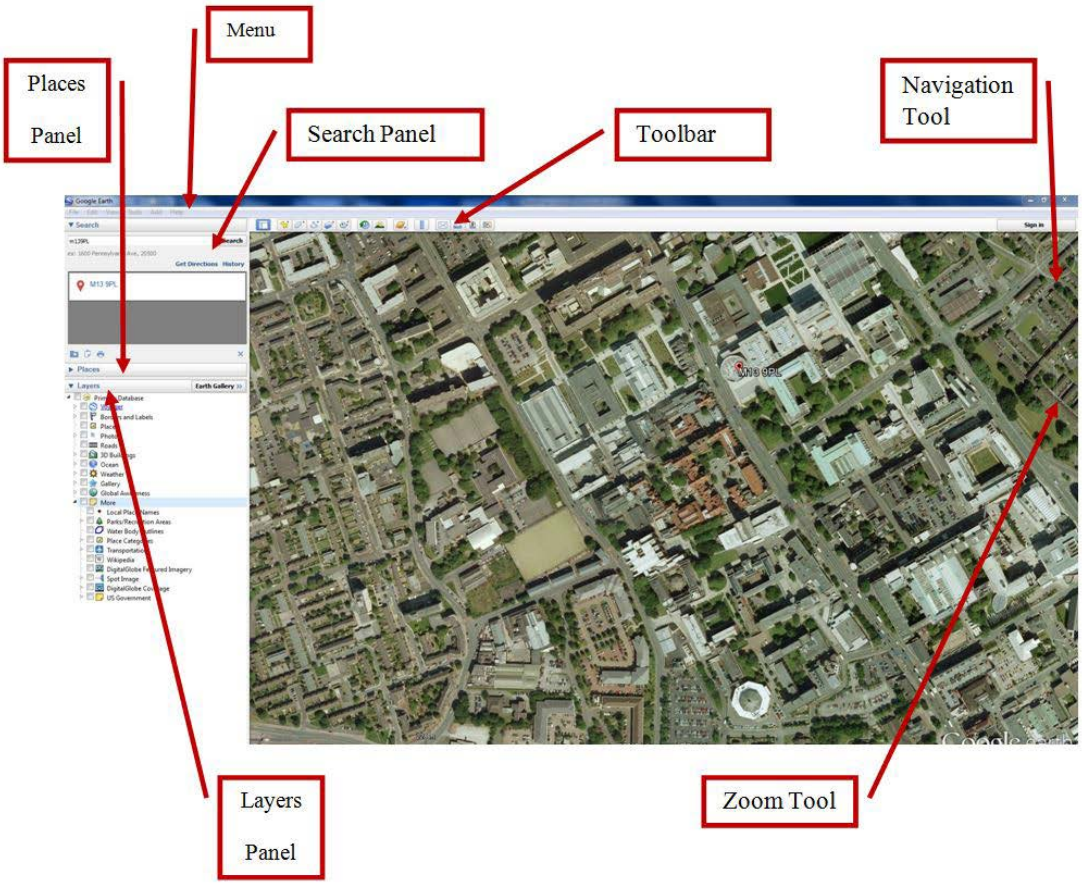
Disclaimer: This handbook does not replace the practical session

A Introduction

A basemap is simply the background settings for your work. Its aim is to provide the necessary background details that you need in your analysis/design stage. Most base maps we use are vector based maps downloaded from Digimap. However aerial views maps are sometimes useful to show the actual image of the site. Digimap Aerial Roam is our preferred map source and you are expected to use it as long as you can obtain the maps from it. However, in some cases you might need to use Google Earth for international case studies to show the actual aerial view of the site under study. You are certainly familiar with Google Earth, so we will only cover a few tools that might be useful for our urban design studies.

B Some useful Google Earth techniques

1-Open Google Earth.
2- In the search panel, enter the University postcode (M139PL). You should end up with this:

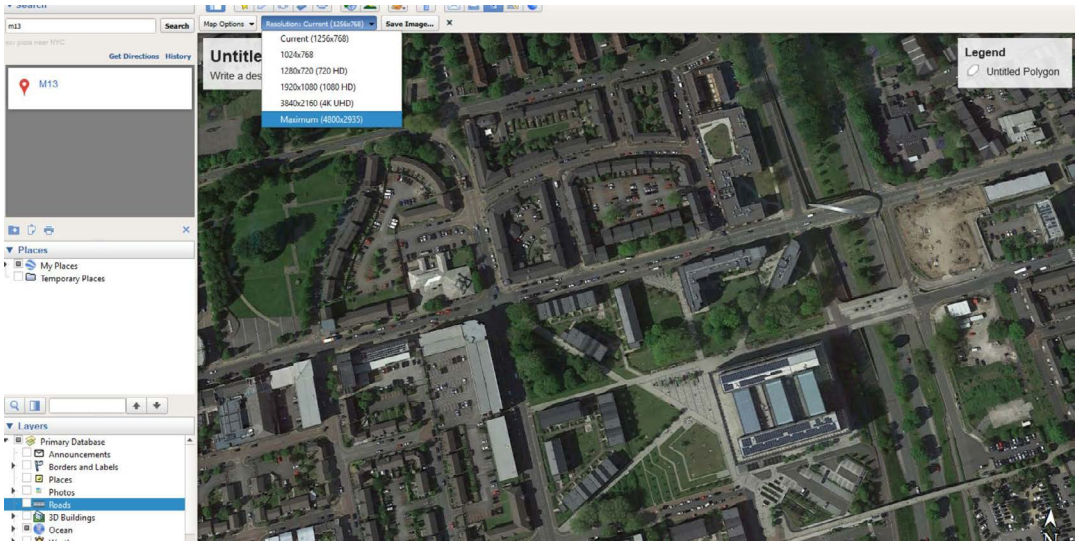


Play around with the different panels and familiarize yourself with toolbar elements. You can use Google Earth to add some features to the map (such as the Add Polygon tool to highlight areas). However, it is recommended to download a basic map from Digimap and manipulate it with Illustrator to build up flexible layers.

3- Go to View and select Scale Bar. This will show the scale bar on the map.

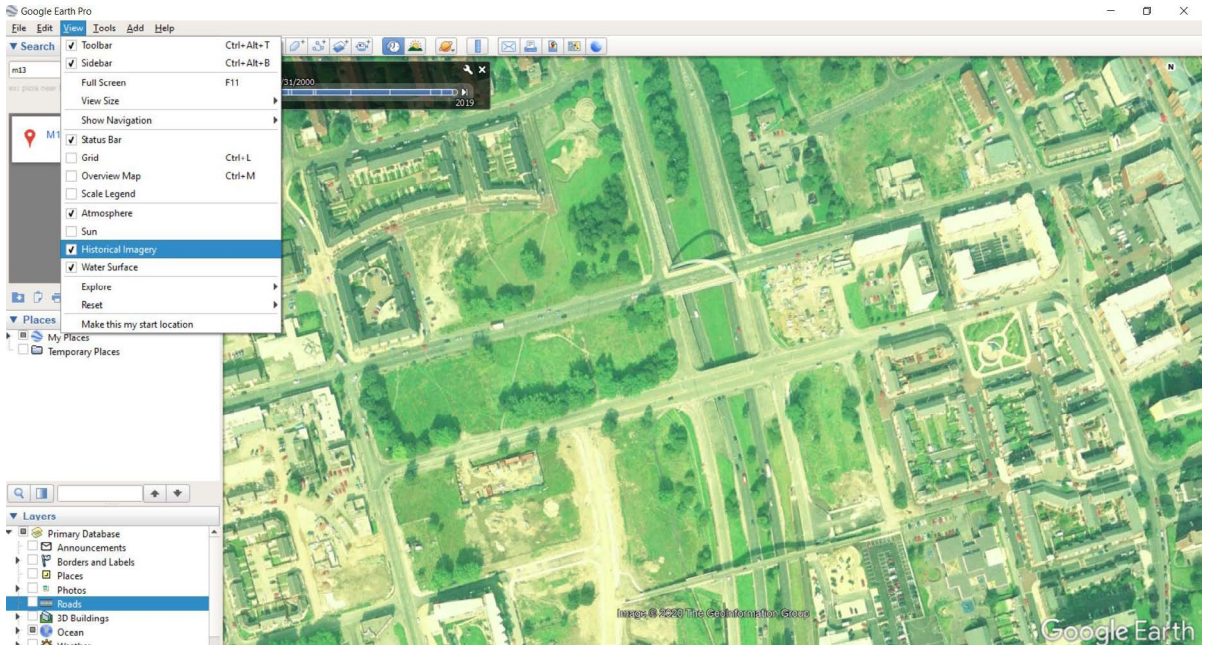
4-From the Layers panel, uncheck all unnecessary Primary Database features. This will create a clean basemap.

5-Using the Zoom in/out tool hover over the area you want to use as a basemap.
6-From the Menu panel, select File/Save/Save Image
7- Change the map resolution to Maximum as below

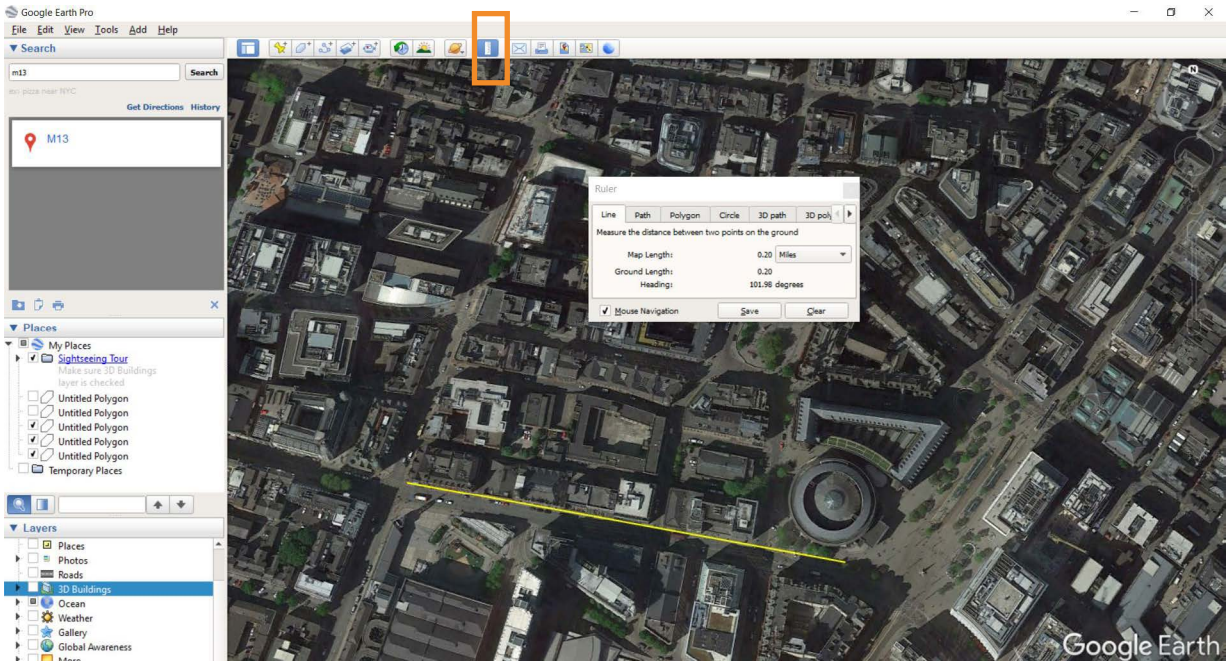


You will end up with something like this:

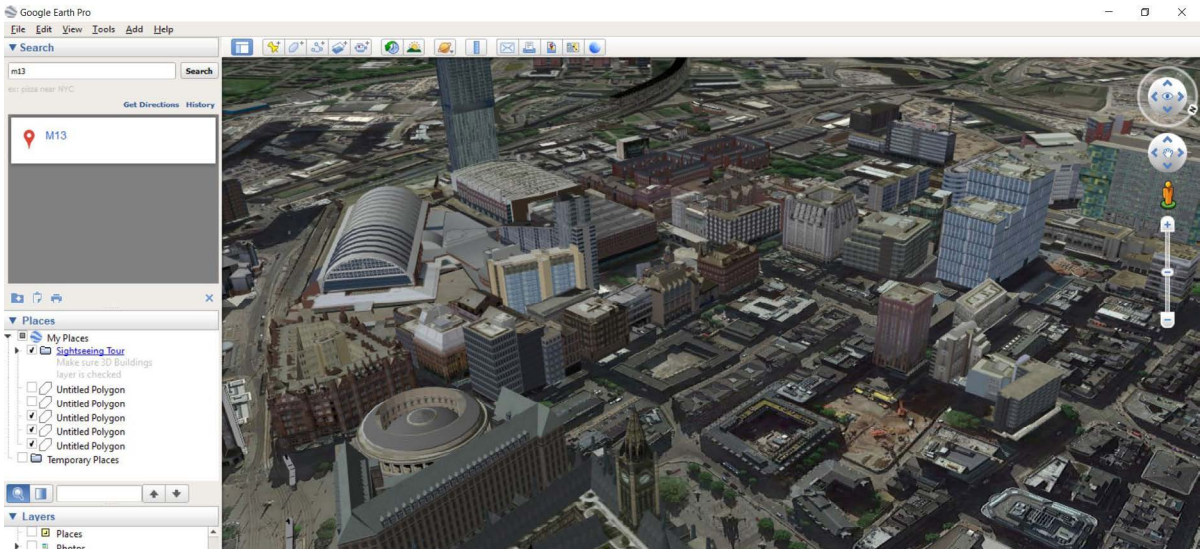
Another useful tool in Google Earth is the **Historical Map**. Go to view/Historical Imagery to activate the time line bar. You can go back in time until the year 2000 and see how the place changed over-time. This tool is very important as it helps you to raise questions about the site recent history and how the urban context round it changed. The image below is for Hulme in the year 2000 in which many key buildings such as Birley Campus and some large residential blocks were not built yet. See how this affected the enclosure of the space around the Arch Bridge (Hulme's gateway).



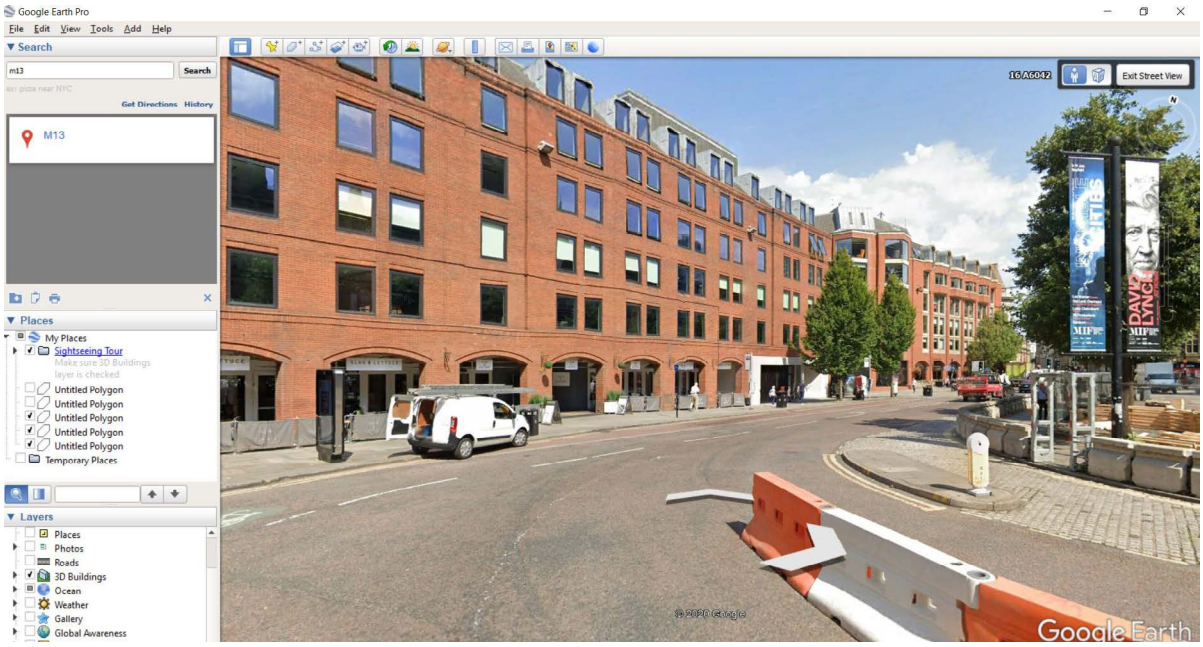
The Ruler tool to get rough idea about the dimensions of the spaces we are exploring. You can also estimate areas using the polygon tool. Keep in mind that Digimap is a more accurate source, so use it for any important technical measurements.



3D buildings is also a useful tool that can give you an idea about building heights. However this is not complete. If you are using an Apple device, try Maps as it has much better quality 3D space. Use this for reference about buildings height. However, please do not submit them as 3D analytical graphics as we learn much better techniques to create such graphics throughout the year.



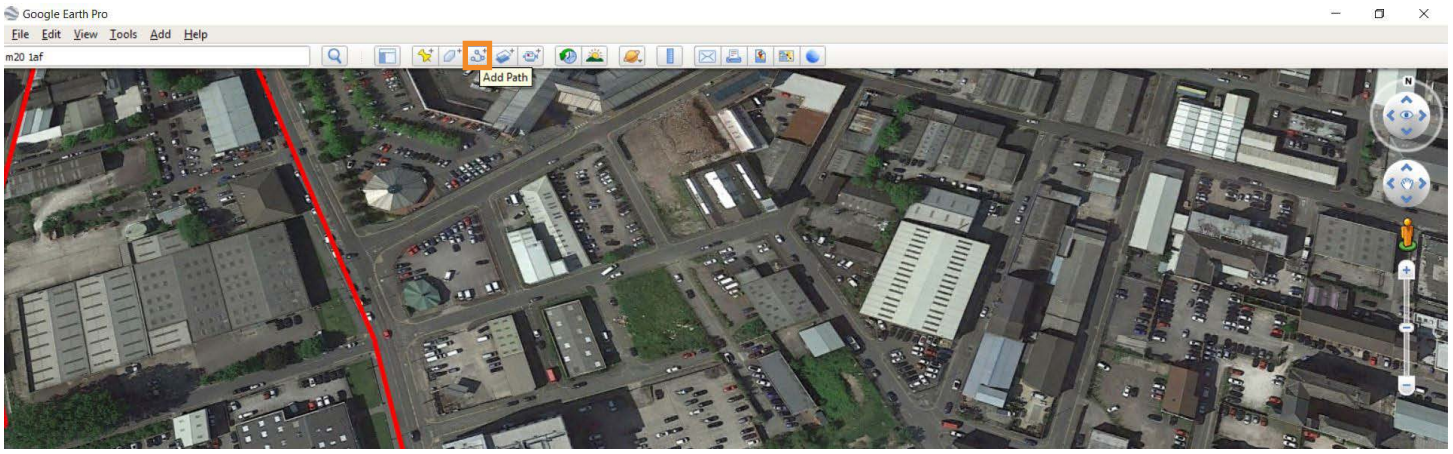
Google street view is again a useful tool to get a rough idea about the space around your site before actually visiting it. So use it to plan your field journey and highlight the key rout you want to explore on foot. DO NOT use Google Street Views images in your submissions as you will risk losing marks. These images are outdated in many cases, and using them for submissions is a bad practice.



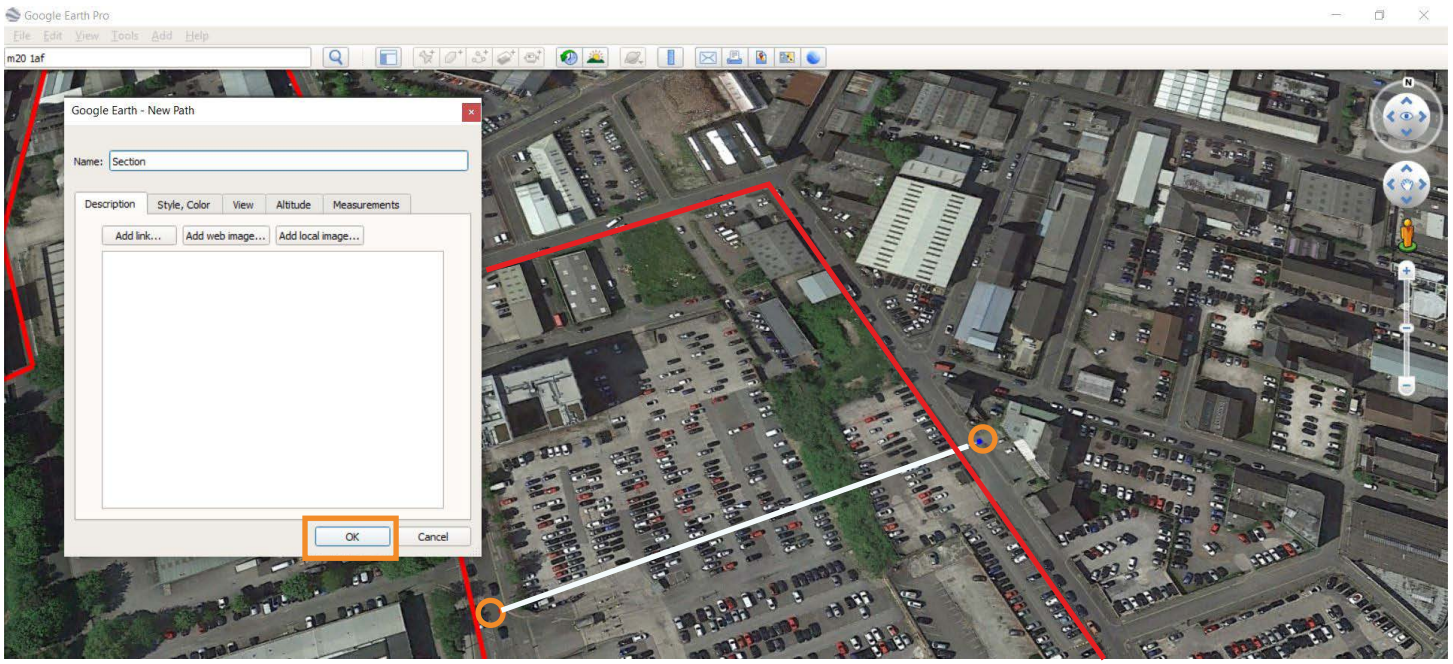
C Land Elevation Profiles

The land Elevation tool is an excellent tool that gives you an idea about the natural terrain in and around your site. While Land Surveyors are usually hired in professional practice to show land terrain accurately in details, Google Earth Land Elevation is a great tool that can be used in the early stages of analysis.

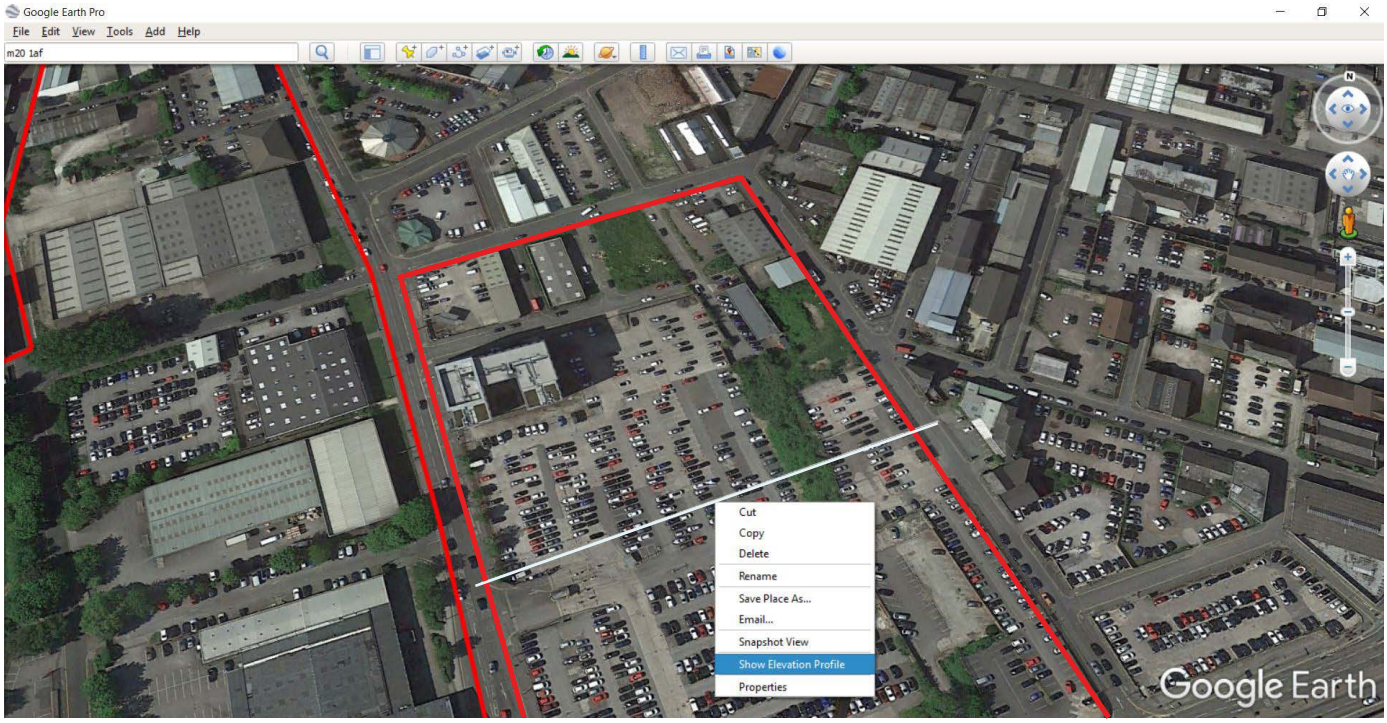
To create a land profile, you need to draw and save a path using the Path tool as below:



This path represents your cross section line you are creating. So make sure you select it carefully to get the full picture about the site and the surrounding area terrain. Extend it to the adjacent streets or river banks for example if necessary.



Right click on the Path you created and select Show Elevation Profile:



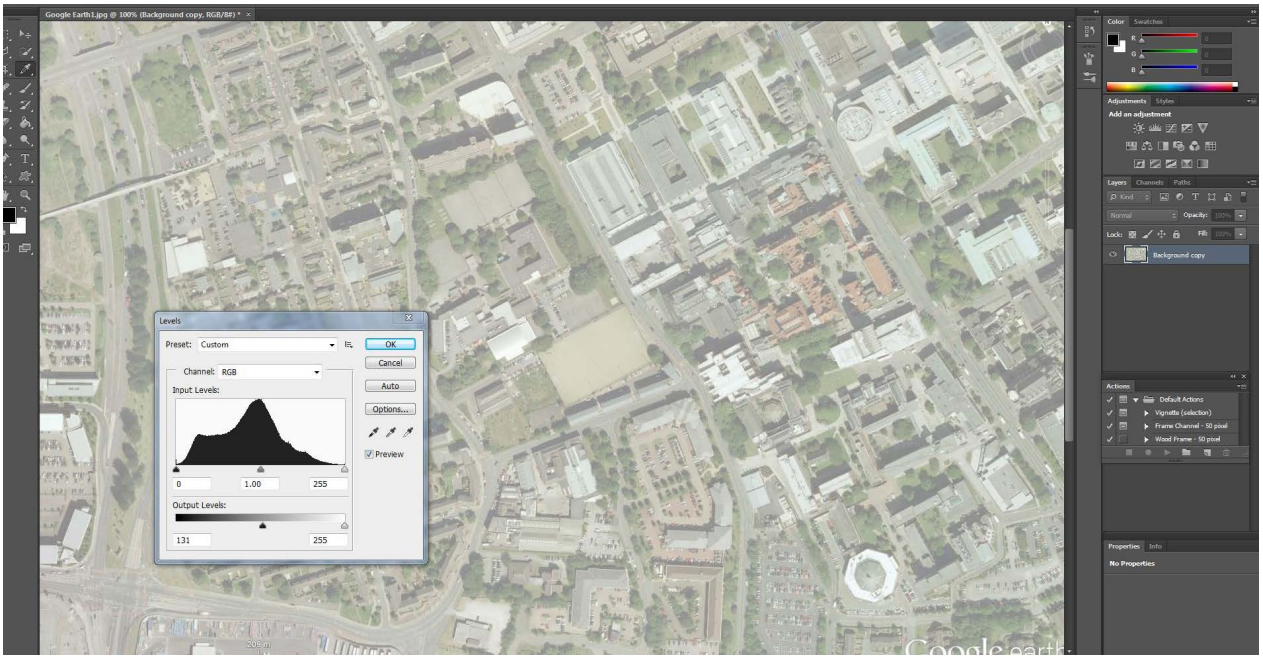
You will end up with this:

Please note that this tool does not show the human made terrain such as ramps and steps. So a site survey is essential to refine it.

D Preparing and editing your Google Earth map

The map that you have downloaded from Google earth is not ready as a basemap. It is very complicated, and full of details that need to be faded. There are many ways to do this, in Ai, Ps, CAD..etc. we can fade the image or part of it easily with Photoshop to make it clearer. Please refer to Photoshop handout for more tasks and ways in modifying the map.

After opening the image with Photoshop, follow the steps below:
1-Duplicate the layer (right click on the layer/ duplicate layer) and give it an appropriate name
2-Delet the original Background layer
3-Select the new layer
4-From the toolbar, select Image/ Adjustment/ Levels
5-Adjust the output level to make a lighter image



You can now either use his fade map as a base map, or cut a few pieces from the fade layer to reveal the layer below and to make the cut pieces stand out as below.

You can use this technique or the Layer Mask technique. We will explore these techniques in details in Photoshop sessions. Please refer to Ps Practical Guide handout for more details.