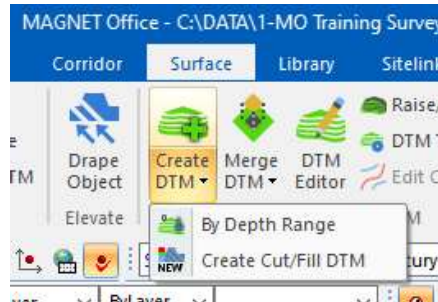
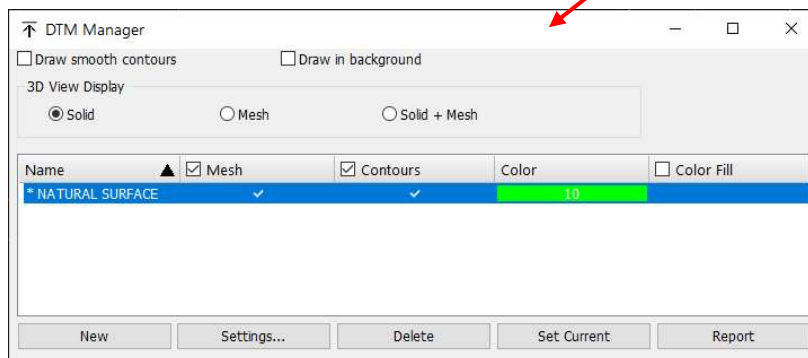
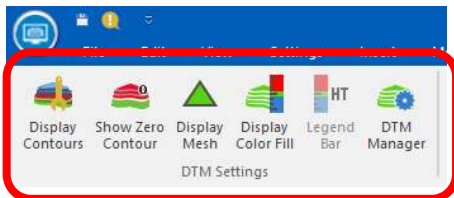


Creating a DTM

This option creates a triangular mesh for the points in the database only including points that have 'Used in Surface' set in the point properties. The option joins the 3 closest points unless a breakline is present and is activated by pressing to top half of the split menu button. DTMs can also be created from a Cut/Fill (comparison of two surfaces) or filtered by a depth range of the points from a reference DTM, these options are found in the expand create DTM menu.



The hot button can be used to turn on both the display of the triangular mesh and contours. This can also be achieved using the **DTM Settings** option from the **Surface** menu that displays the screen below or by pressing the green triangle at the bottom of the screen to display the Modeless DTM Manager screen that is docked to the left side of the screen (please review Pg. 45 for Modeless screen actions). The **draw smooth contours** check box smooths the contour display in the survey view. The **draw in background** puts the contour line work behind the survey to avoid blocking the survey linework.



Exercise – Create a DTM

1. Make sure that all the data has been imported to the Survey and is setup correctly so it can be used for triangulation. Under the **Surface** pull down menu, select **Create DTM**. The following dialogue box will appear:

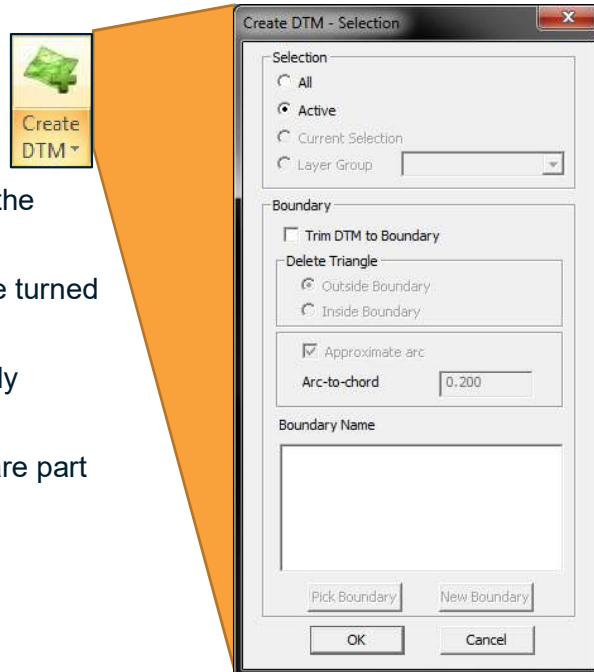
Selection Options:

All - will select all the layers in the project for use in the DTM.

Active – only the layers that are turned on will be used

Current Selection – the currently selected points will be used

Layer Group – the layers that are part of a group will be used

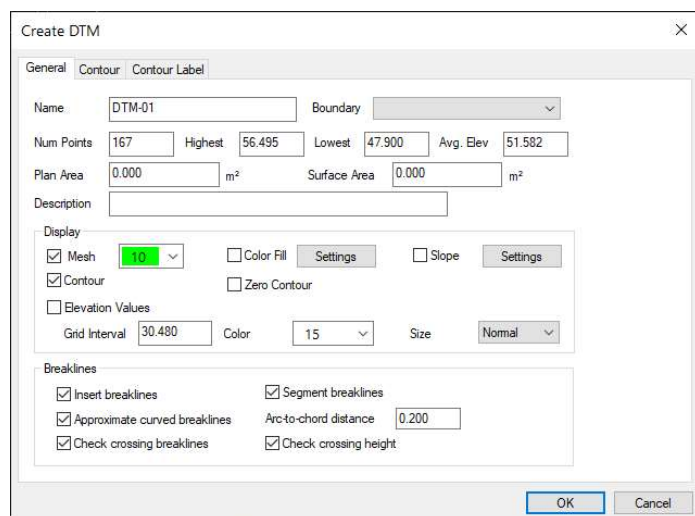


Boundary Options:

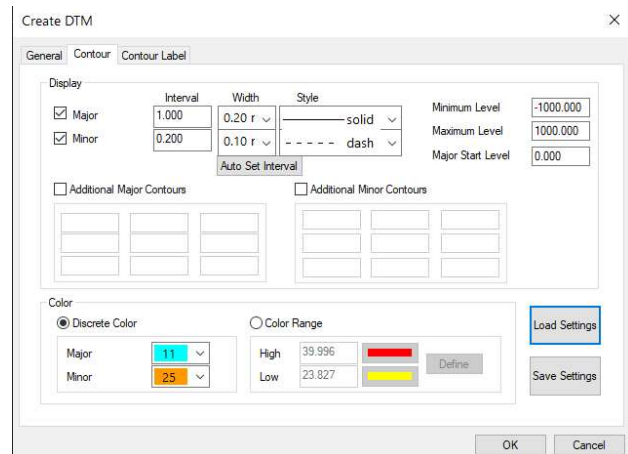
A boundary can be selected to limit the DTM to a single area or to exclude that area

2. For this exercise use the **Active** option, and then click **OK**.
3. This will open the **Create DTM** dialogue box where all the plot settings, contour settings and naming can be edited before the DTM is created (shown below)

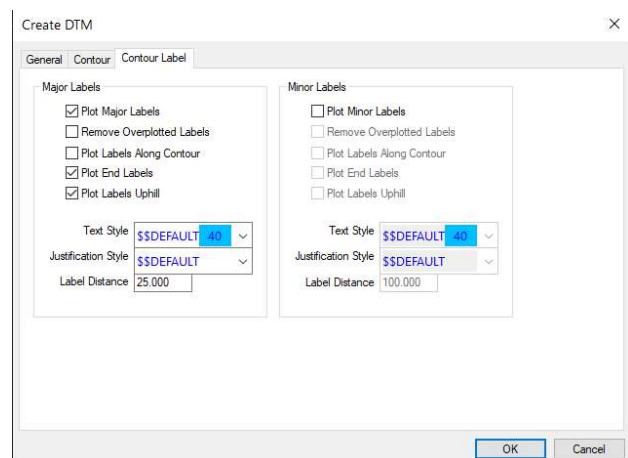
The General tab is where the name, description, mesh colour and the more technical settings such as breaklines and tolerances are selected. Suggest that the default Name be replaced with the actual surface name, eg. NATURAL



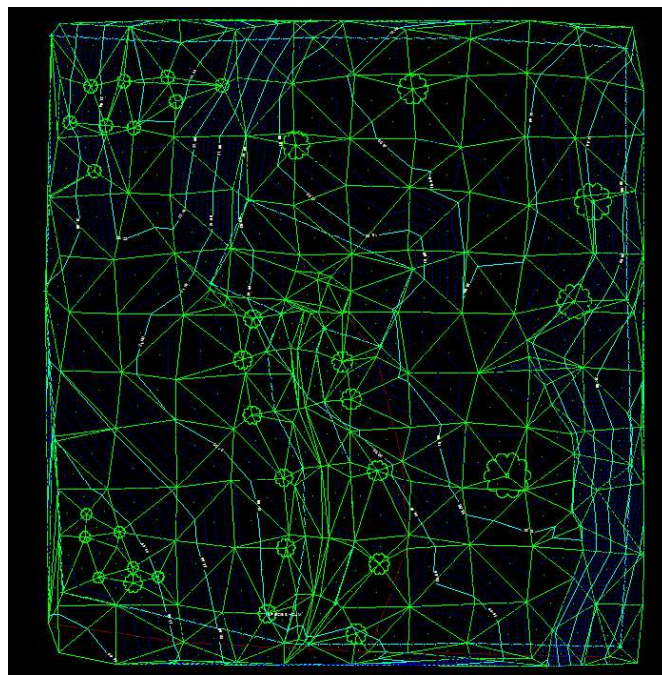
The Contour tab is all how the contours will be displayed. Contour intervals and colours can be edited here for the desired effect.



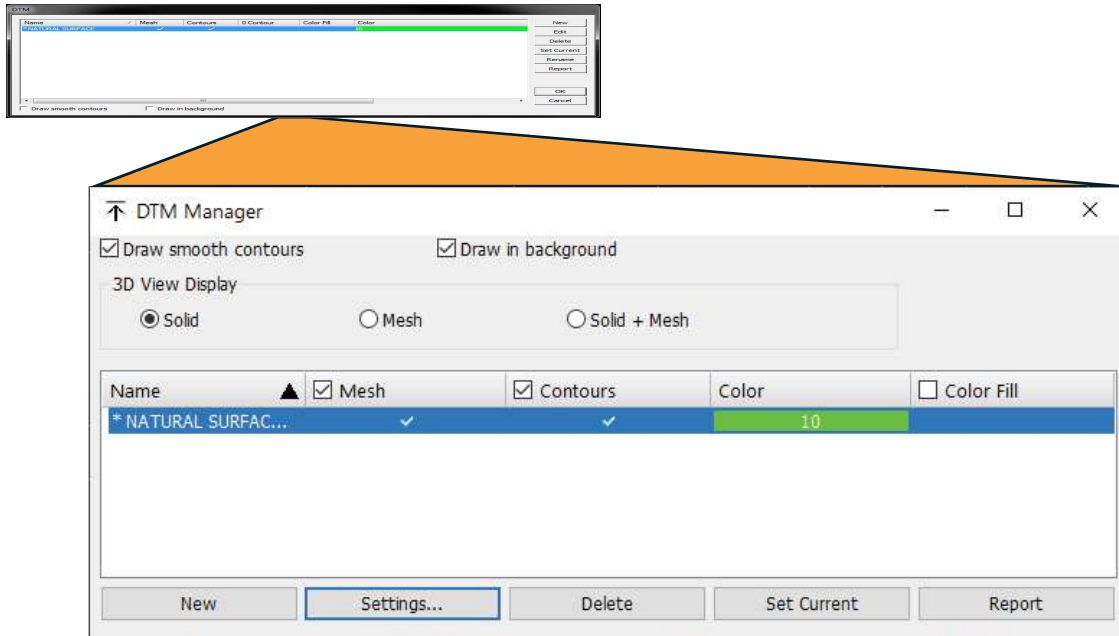
Contour Label lists the plotting options for the Major and Minor contours.



- Once the DTM has been setup click **OK** to create the DTM. MAGNET Office will triangulate the data and the throw back into the survey view. The **Mesh** and **Contours** will now be visible.



- Use the Green Triangle in the Status Bar to edit or view the settings for the DTM. The mesh and contours can be toggled on and off and there are 2 other options to **Draw Smooth Contours** and **Draw in Background** in this window. By double clicking on a DTM the settings can be accessed and edited.



At this stage of the process, a combination of user judgement and using the DTM editing functions is needed. Once the DTM is created the user should then view and check the triangular mesh for any long, thin triangles around the edges of the model and any triangles that may be out of place.

