

# Tutorial 19: AutoCad to ArcMap and ArcMap to AutoCAD

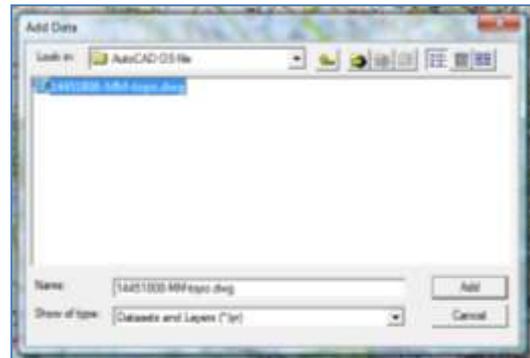
## Module content

This tutorial will cover how to bring a .dwg AutoCAD file into ArcMap and how to export ArcMap layers for use in AutoCAD

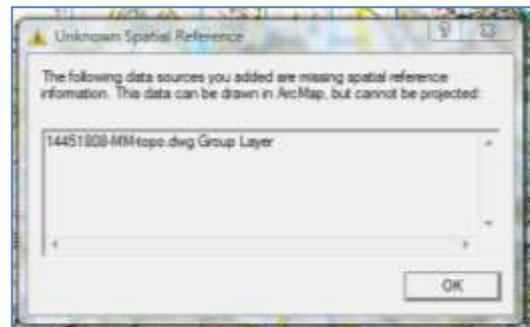
### 19.1. Adding an AutoCAD file to an ArcMap Project

AutoCAD files can be directly added to an ArcMap project. When saving your .dwg file in AutoCAD make sure that there are no spaces in the file name, for example Autocadfile.dwg. Save the .dwg in one of your ArcMap project folders. In this case we will add an Ordnance Survey .dwg file to our ArcMap project.

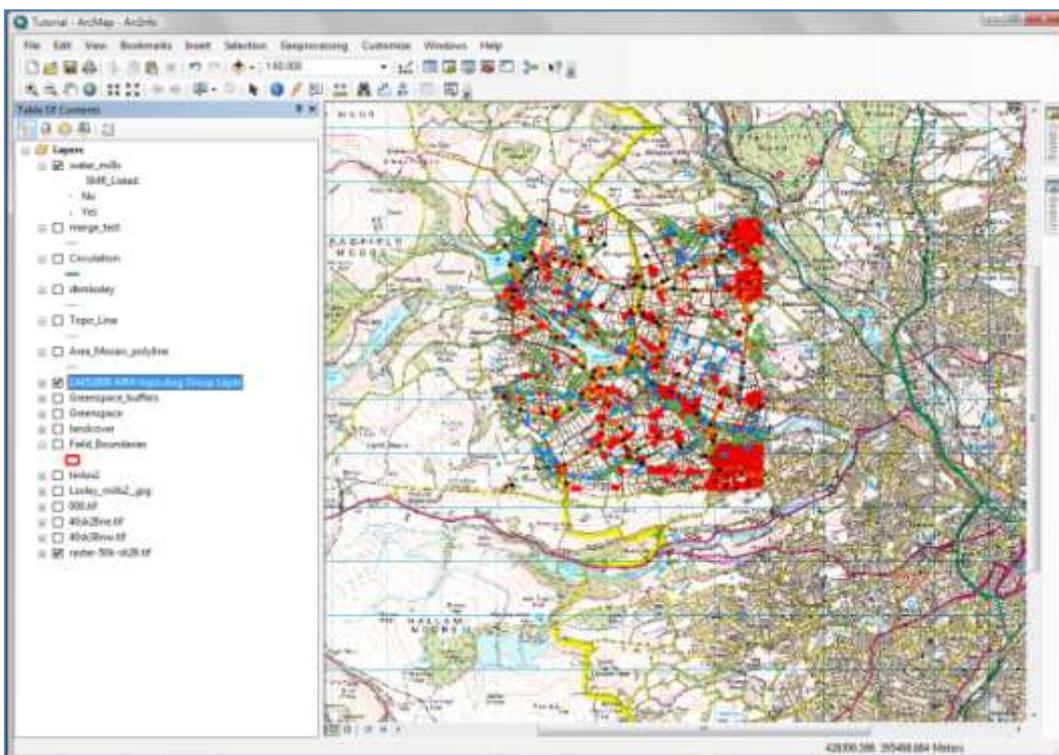
Open the .mxd project that you want to add the AutoCAD file to. Select **Add Data** and navigate to the GIS Tutorial Data Folder, Edina OS Data Download, AutoCAD OS File, and add the file **14451808-MM-topo.dwg**.



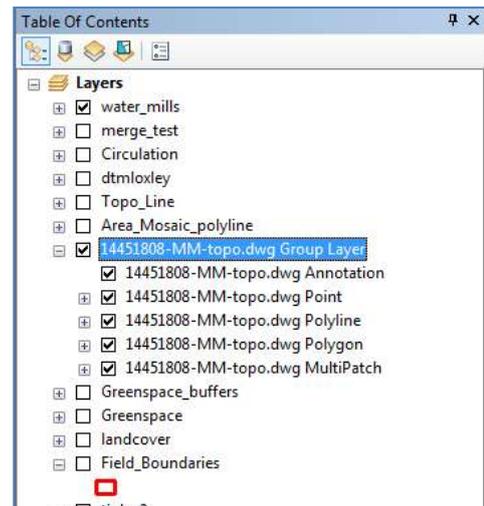
ArcMap might display an 'Unknown Spatial Reference' warning, click **OK**. In this case the file will be correctly georeferenced, but be careful to check the accuracy against your other data.



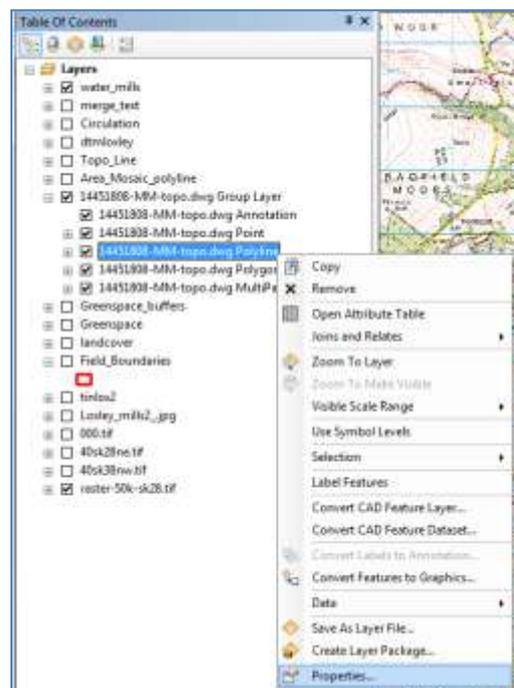
If the CAD file is simple, for example on one layer, you are finished. As with many CAD files, the OS file is not simple, being composed of several layers of data. ArcMap combines all these layers, including annotation, into one group layer, composed of 5 categories: annotation, point, polyline, polygon, multipatch.



If you expand the layer's legend in the table of contents you will see these multiple files.

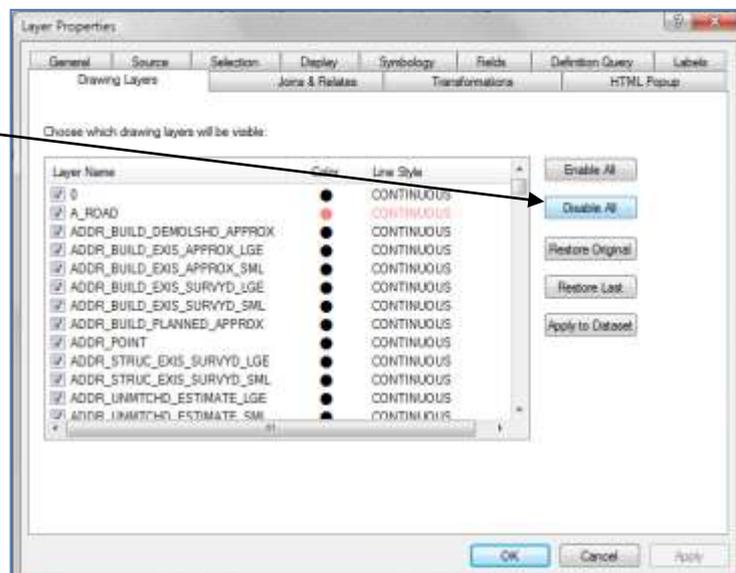


To extract features from these group layers, right click on one of the CAD layers in the table of contents, select **Properties**.



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The **'Layer Properties'** window will open. Select the **'Drawing Layers'** tab. Click **Disable All**.

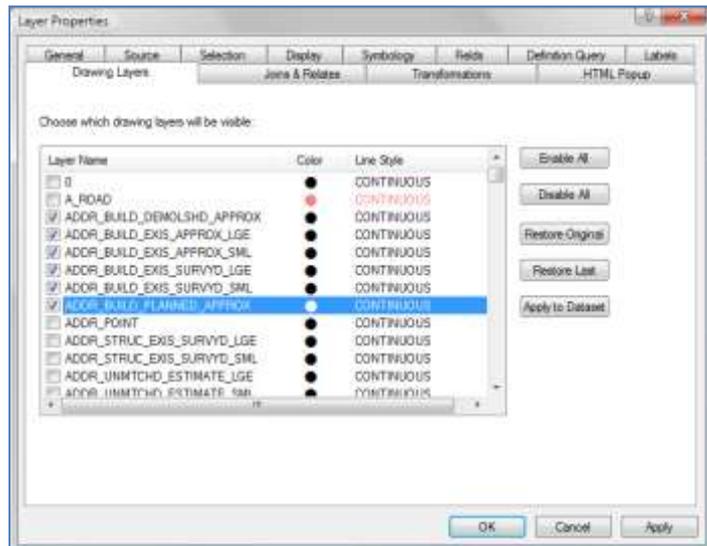


Click next to the first of the CAD layers that you want to isolate. Click **Apply** and then **OK**.

In this case the OS file is particularly complicated and includes many layers. When you are working in AutoCAD, on a design for example, it is best to split the features you are drawing on to different layers. Make a note of these layers and then you can easily find and isolate them in ArcMap.

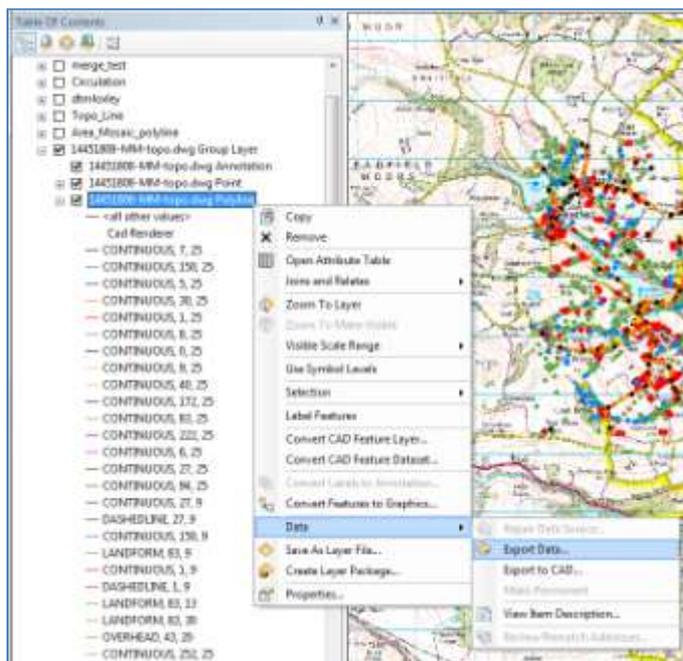
If you want to combine more than one layer, click on all the layers you want to combine, then click apply and then OK.

Close the window.

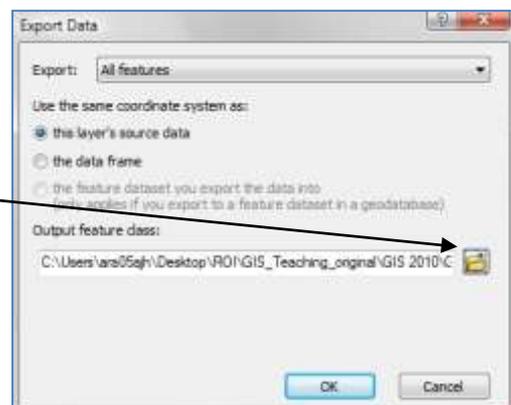


Right click on the layer in the table of contents.

Select **Data**, then **Export Data...**



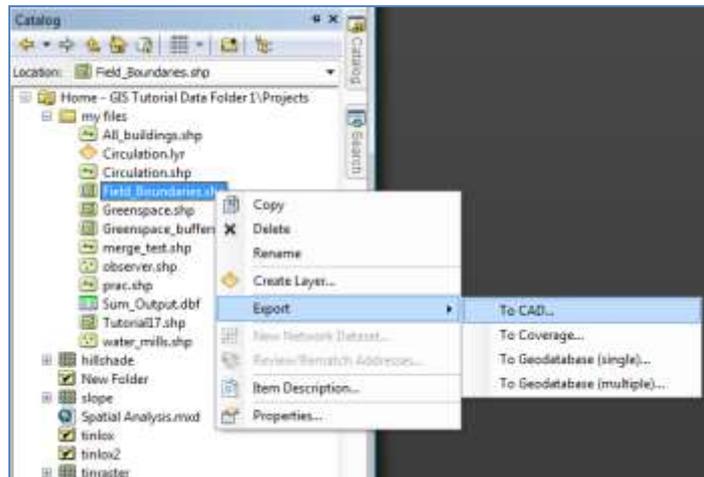
Choose somewhere to save the shapefile and give it a name. In the 'Saving Data' window, choose Shapefile from the drop down list for 'Save as Type'.



Choose to add your shapefile to the .mxd project when prompted.

## 19.2. Adding ArcMap Data to AutoCAD

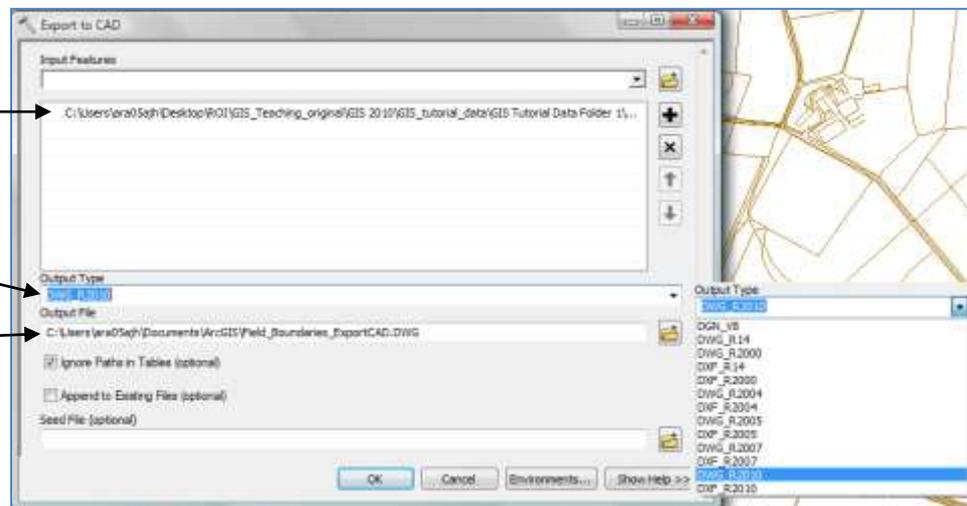
You can export from ArcMap as .dwf files, which are compatible with AutoCAD. Open ArcCatalog, select the shapefile you want to open in AutoCAD. Right click on it and select **Export**, then **To CAD...**



The shapefile you right clicked on should be in the table.

Select the file Output Type; DWG or DXF.

Choose what to name it and where to save it.



If you want to add multiple shapefiles to AutoCAD, click the 'navigate to' button next to the **Input Features** box, and click on another shapefile.

### DWG and DXF Errors

**\*Note:** this export will not work if any of your folder or subfolder names have spaces in them, or if your file name has spaces in it, or if the folder, subfolder or shapefile has more than 8 characters.

If they do: navigate to the shapefile you want to export, right click on it and select copy, then navigate to your U:drive and create a new folder, called Exports for example. Open the new folder and paste the shapefile into it. You can now rename the shapefile, so that it has no spaces in it.