

FreeHand File conversion (to .shp)

The main tasks to get shapefiles from freehand files:

- 1) Convert the control point coordinate (in degrees) to UTM (metres)
- 2) georeference the drawing
- 3) assign the data type (point, line, or area)
- 4) export the file as .shp (ArcMap shapefile)

I used the extracted Route version of Freehand documents for the demonstration below.

1) Convert the control point coordinate (in degrees) to UTM (metres)

The provided information:

Scale = 250,000

UTM zone 13, NAD 27

Steamboat Spring Coordinates = LAT 40.477880, LONG -106.821000

Since the original data source is in UTM Zone 13, NAD 27, we would like to have the coordinate in UTM metres, not degrees.

We can convert the decimal degrees to UTM coordinate by conversion tools available on the Internet:

e.g. <http://www.rcn.montana.edu/resources/tools/coordinates.aspx>

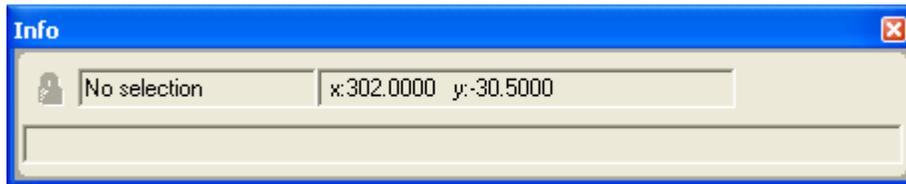
Latitude	UTM Y (northing)	Longitude	UTM X (easting)
40.477880	4482181	-106.821000	345641

2) georeference the drawing

In order to georeference your drawing, you need to have the XY coordinate of the real world (like the one at Steamboat Spring) and the XY coordinates of the page. Since you have given the coordinate at Steamboat Spring and we have converted to UTM coordinates, we now need to get the XY coordinate of the page.

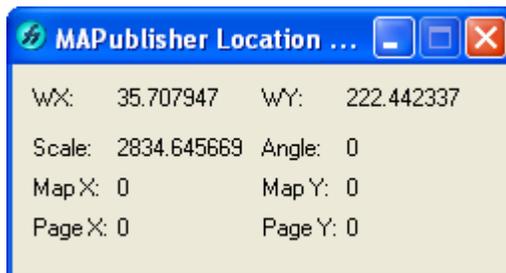


When you open Freehand to get this tool bar “Xtra Tools” (Windows / Tool Bars / Xtra Tools), click on the green pointer with a question mark besides it.



Or alternatively, you can select this “Info” tool bar from (Windows / Tool Bars / Info). Both of those tools bars show the XY coordinate of the point where you clicked on the page.

Click on the centre of the symbol for Steamboat Spring.



You can obtain the XY coordinate of the page in the MAPublisher Location box (see WX and WY).

Record these coordinates.

Now, this is time to geofence your drawing. Select Xtras → 4. Map Creation → Add MAP Parameters (The MAPublisherAdd MAP Parameter window appears).

Enter the Page Anchor we have just obtained above.

Enter the map anchors in the “MAP Anchor X/Y” fields. For our case, type in the converted UTM coordinates easting for X and northing for Y.

Enter Scale value: you informed us that the scale of the original map was 1:250000. Enter 250000. Select the layer you would like to geofence. (I will click on the check box “Apply to all Layers” for our case).

Since the map is not rotated, so leave the angle as default.

Select “meters” for Units as the unit for UTM is in metres.

Now, the MAPublisher Add MAP Parameter box looks like this:

MAPublisher Add MAP Parameters

Page Scaling Information

Page Anchor X: 35.707947 Enter Scale: 1 to 250000

Page Anchor Y: 222.442337 OR: Same Scale as Layer: [dropdown]

Map Anchor X: 345641 Angle: 0

Map Anchor Y: 4482181 Units: Meter [dropdown]

Apply to all layers

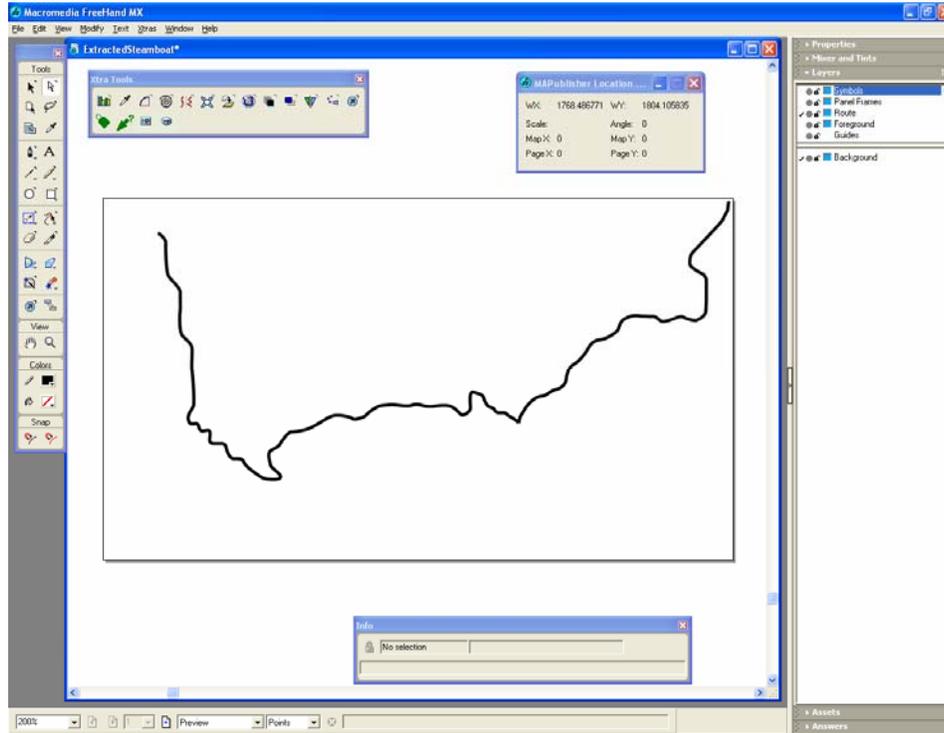
Cancel OK

Click Okay to apply the parameter and close the window.

3) assign the data type (point, line, or area)

Each of the layers must have a data type (point, line, or area) to use as a geospatial layer. For example, the route layer in your file is a line and the symbol layer is a point. We are going to assign it to each layer manually.

Make all the layers but the Route layer invisible so that you can see all the objects in the Route layer.



Select all the objects (lines) in this layer. ****Make sure that all the lines are highlighted**

Now, Go to Xtras → 4.MAP Creation → Assign LINE Defaults

Repeat this for the Symbol (except that Assign POINT Defaults for the Symbol Layer)

4) export the file as .shp (ArcMap shapefile)

Now, it is time to create a shape file. We are going to create a shape file from the Route layer and another shapefile from the Point Layer.

Again, **highlight all the lines** in the Route Layer.

Now select **Xtras → 09: Map Export → Export as ArcView shapefile**.

When the “Save as “ window appears, make sure that you select the correct folder to place the exported shapefiles. Then type the name for the shapefile.

When the “MAPublisher Export as Shapefile” window appears, select the data type for the layer (Line data type for the Route layer)



Repeat this step for the Symbol layer. Note: If you choose the point data type for the Symbol layer, the conversion may not be successful..

That is all for converting the Freehand file to the shapefile format. Using the same approach, I successfully converted each of the layers in the non-extracted version of the freehand file.