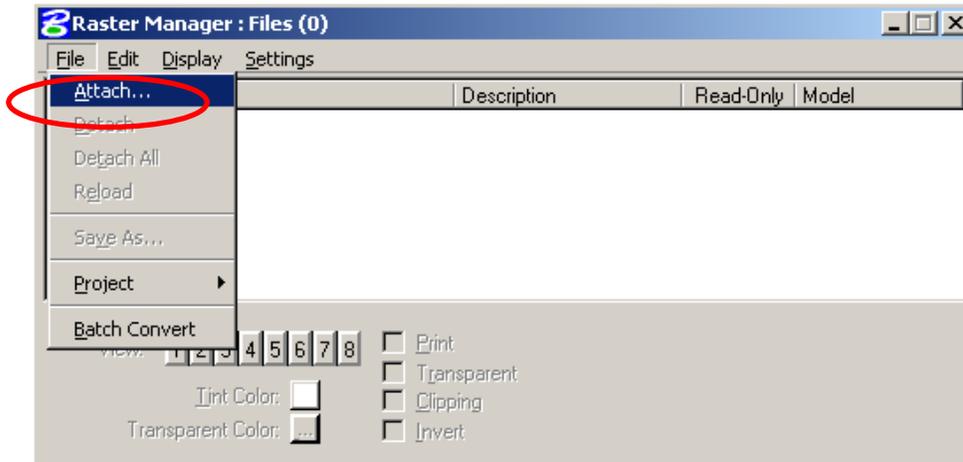


## Exercise 1 (Scaling and Warping images)

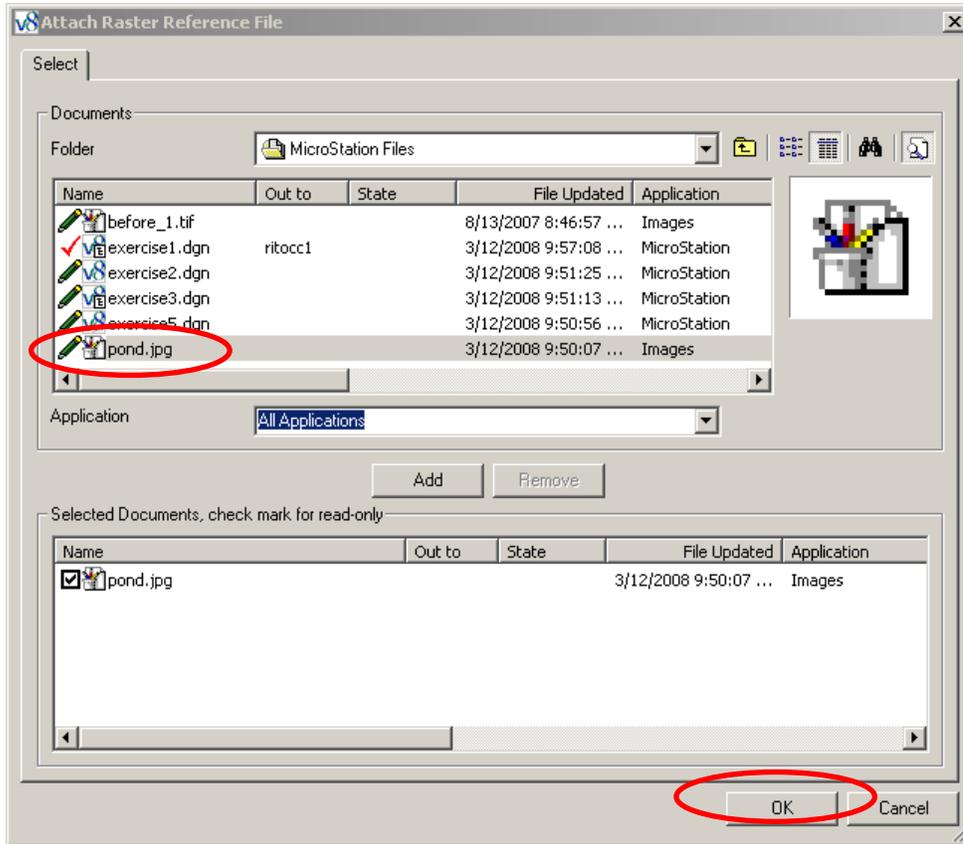
In this exercise, we will consider a MicroStation .dgn file with some geometry in it. You will need to attach an image file to it, then move, scale and rotate the image to match the geometry found in the .dgn file.

- 1) Open the MicroStation file: **exercise1.dgn**
- 2) Open the Raster Manager .
- 3) Attach the file that contains imagery of this particular area.

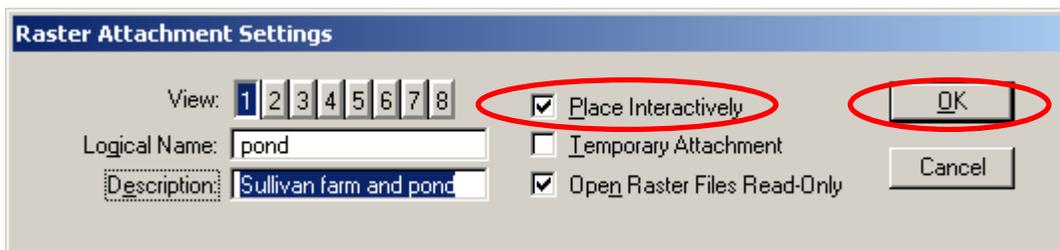
Select **File>Attach**.



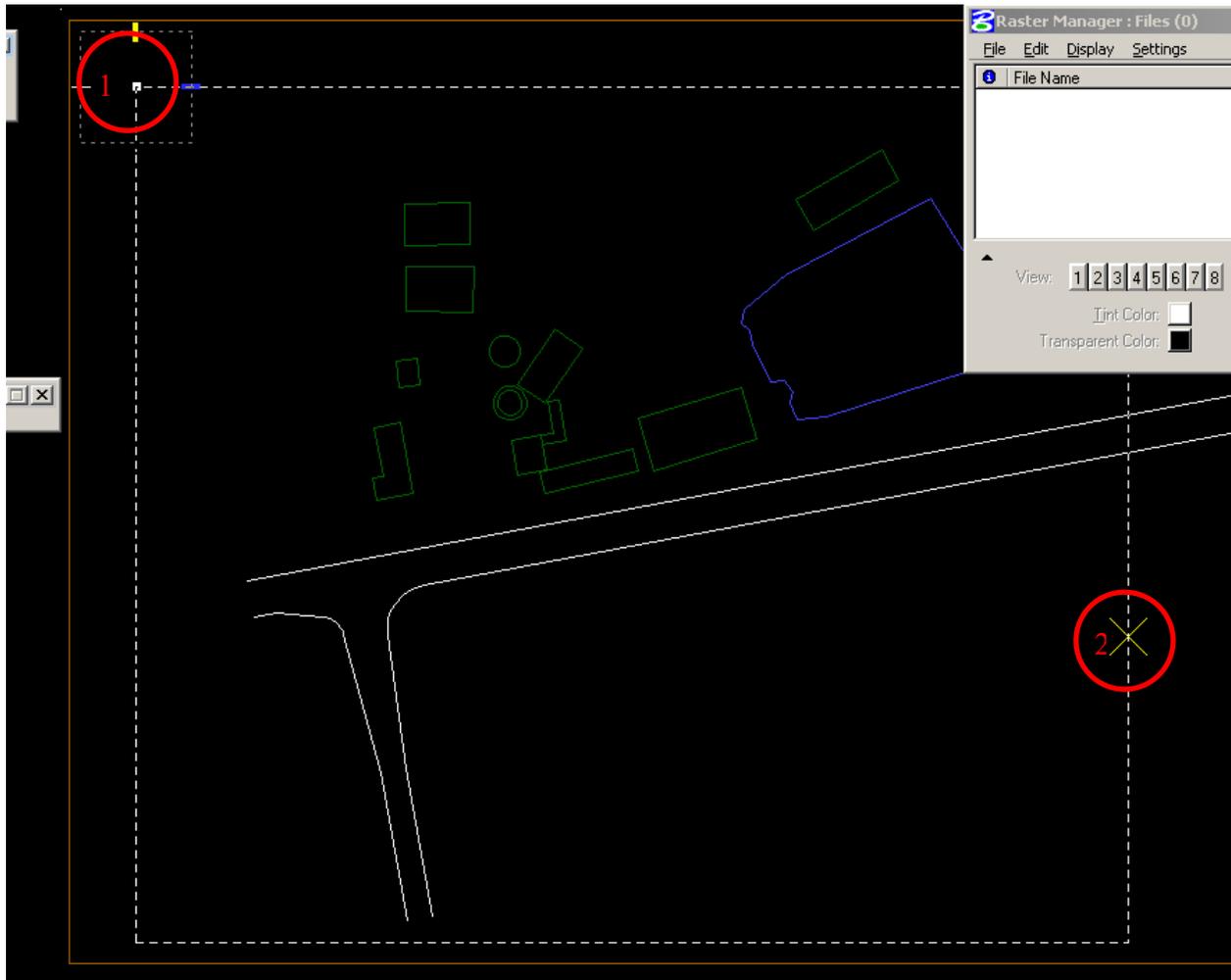
- 4) Select the image file **pond.jpg**, by double left-clicking your mouse on it, and then select OK.



- 5) Add a Logical name, and a description (optional). you want to make sure that “Place Interactively” is checked (✓) so you can place the image where and how you want to. Then select OK.

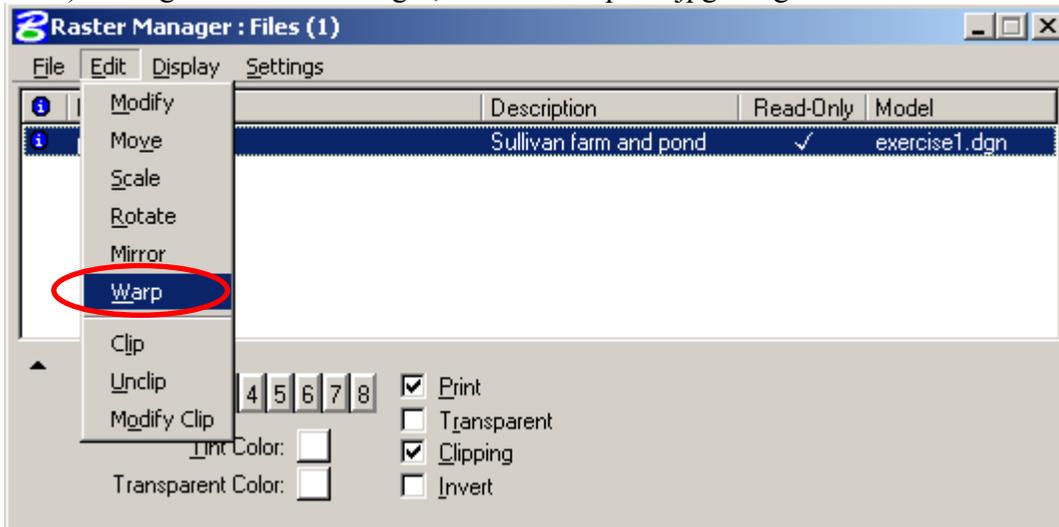


- 5) you will be prompted at this point to Enter an Origin point (1). Single left-click a point above and left of the geometry in the file. Next, drag your mouse to the right and down, you will see a dynamic box showing. You will be prompted to Enter a Corner (2). Drag your mouse to the right, and right click on a point that makes the box that overlaps the geometry. You will see the image attach at this point.

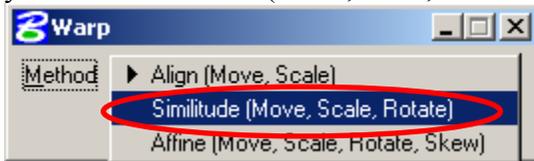


Now that the image is attached, you need to warp the image to match some of the geometry contained in the file. The best method is to match up easily identifiable points, such as the corners of buildings, the centers of silos, or any other easily identifiable point. The more points you can match up, the better your end product will be.

6) Using the Raster Manager, click on the pond.jpg image. Then select **Edit>Warp**.



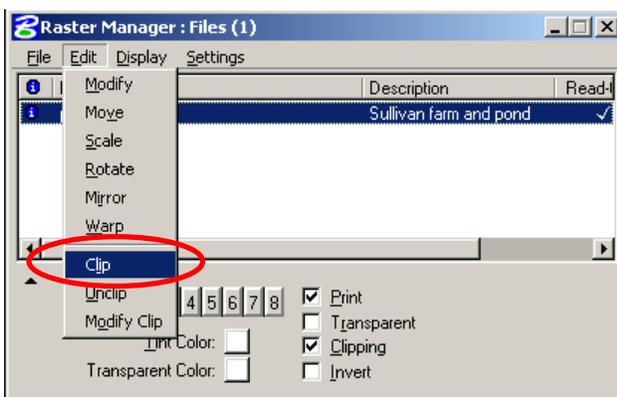
7) A new dialog box will pop up. Select **Similitude** as your method. It is the best tool for what you want to do here (move, scale, and rotate the image).



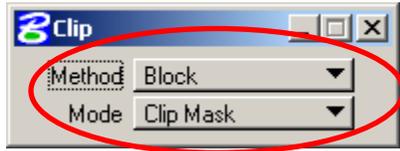
8) You will be prompted to enter an **image point**. This is asking you to identify a point on the image. Select the corner of a building, or some other easily identifiable point, by single left-clicking on it. You will then be prompted to select a **monument point**. Single left-clicking on the corresponding point on the actual geometry in the file.

9) You will repeat step #8 several times. The more sets of points selected means the better you can get your image to warp to the geometry. After you are done, right-click your mouse button, and you will see the image change. It should pretty closely match the geometry.

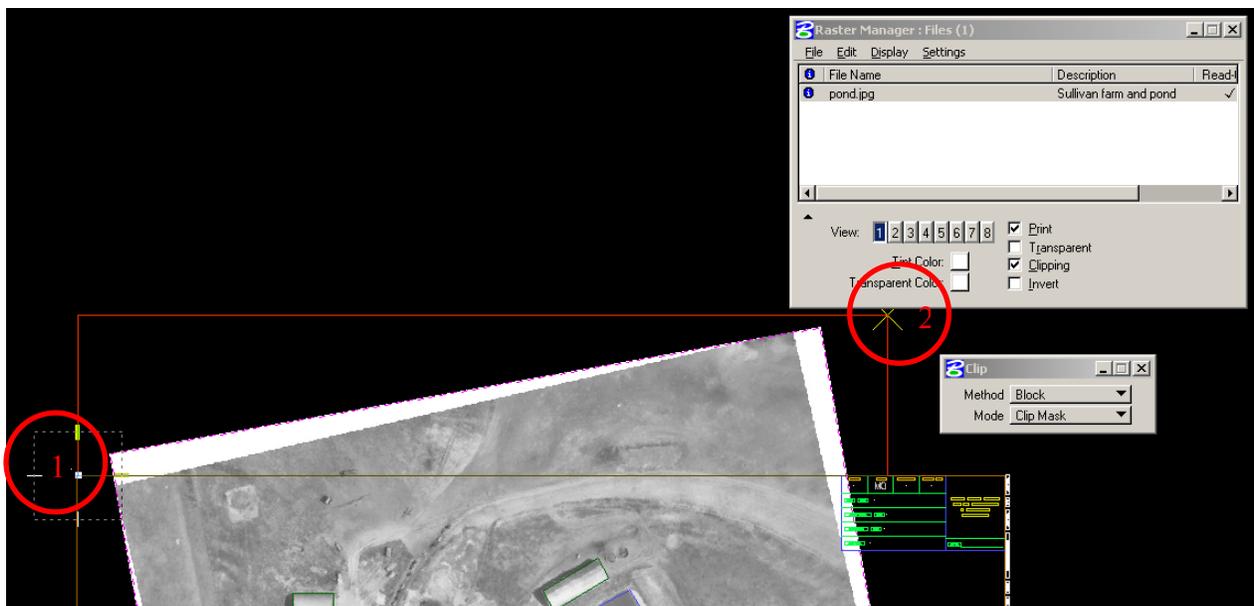
10) If you want to clean up the file, you canclip the image so you only see what is in the border. You can do this several ways. The easiest way is to select the image file **pond.dgn** in the Raster Manager. Then select **Edit>Clip** from your pull down menus.



You want to clip off the unwanted parts of the image. Once we select Clip, another dialog box will appear. We want to select **Block** method, and **Clip Mask** mode.



You will be prompted to enter a first point. This would be a corner of the block you want to clip off. For this exercise, select a point near the left edge of the border file. Left-click your mouse at that point (1), then drag the box out to define the limit of the clip. Left-click your mouse once. It will then prompt us to Save or Reject our clip. We accept by single left clicking on the screen. If you did not want to accept the clip, you can right-click our mouse to reject the clip.



You can do the same clip method for the piece of the image overlapping the title block.

11) After you have clipped the image, you may want to change the background of the image so that it is transparent. You do this by selecting the **pond.dgn** image in the Raster Manager dialog box, and checking the **Transparent** box.



You are finished. You can save our file in case you need it later.