MSCAD2005 - Layout Mode Made Easy (A.K.A. Paper Space)

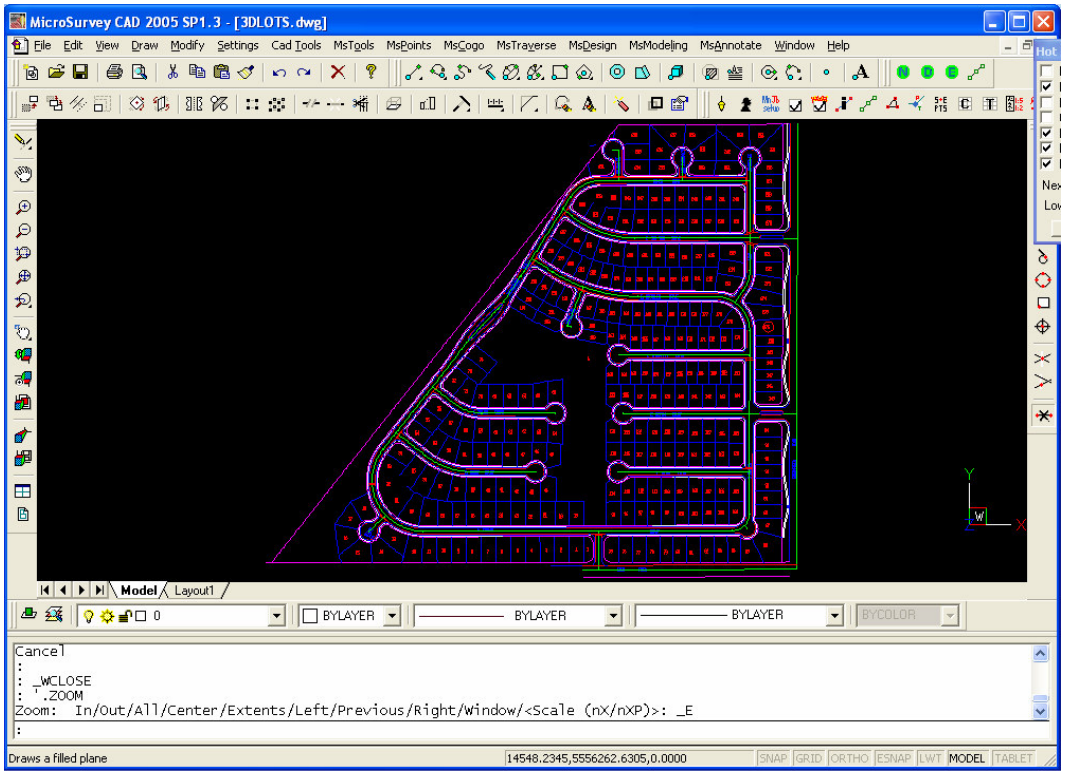
Question: How do I print using Layout Mode (Paper Space)?
Answer: Read the following TechNote for information.

Question: When I open a DWG file sent to me by an Architect (Engineer, Surveyor, Etc.), I cannot select any of the drawing entities without selecting everything in the drawing. When I Edit the entity information, it says it is type Viewport. What is this?
Answer: You are looking at a Viewport in Paper Space. The Architect (Engineer, Surveyor, Etc.) has sent you a drawing last saved in Paper Space.

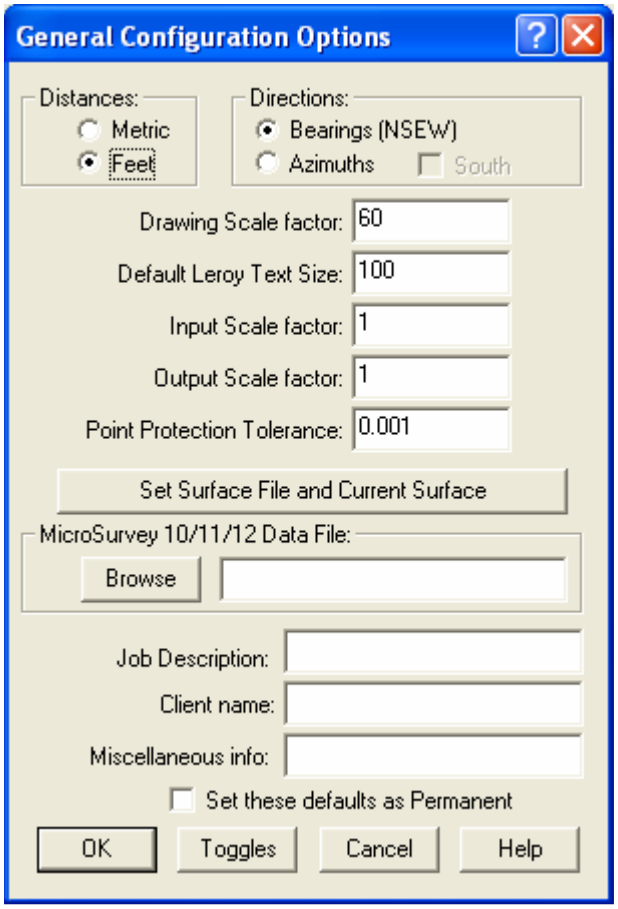
Question: What do I need to do to edit the drawing for my own requirements?
Answer: Quite simply, you need to toggle the program from Layout Mode (Paper Space) to Model Space. See Step #1 below for the appropriate commands.

The questions above have been asked many times by users just like you who are unfamiliar with this powerful tool. The following Tech Note will explain a simple way to use this tool to increase your productivity and simplify the printing process.

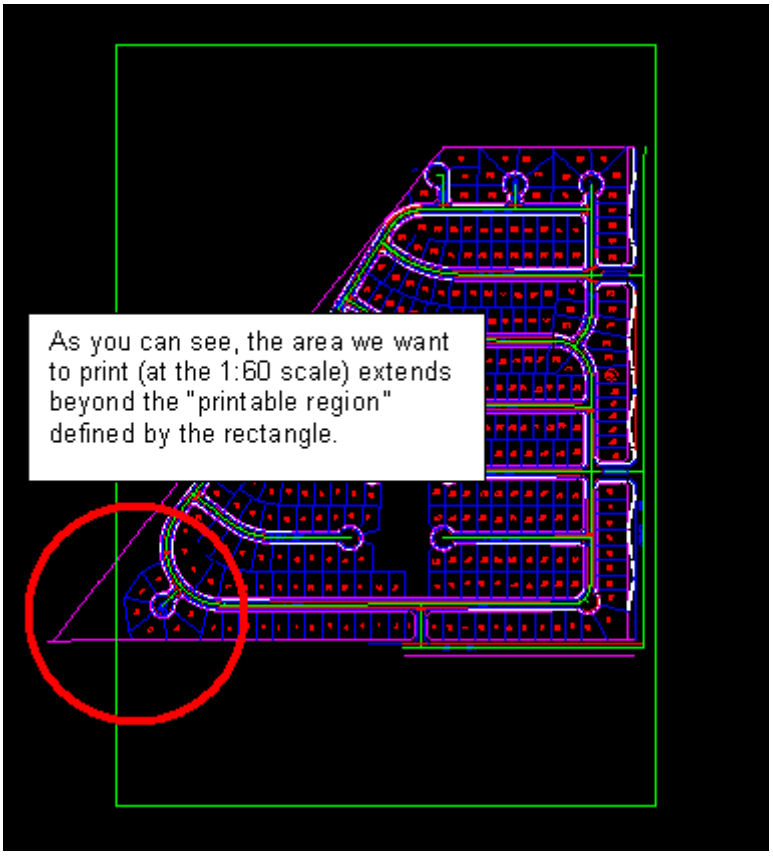
The image below represents a drawing that can be found in the C:\Program Files\MicroSurvey\MSCAD2005\Examples folder on your hard drive (It is called 3DLots.DWG). To see it in Plan view (as shown here), type in the command PLAN and press enter twice in a row.



For this example, I have saved the file under a new name C:\JOBS2006\TechNote Paper Space.DWG. The general configurations are as follows:



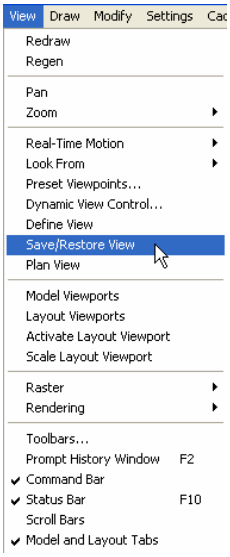
At this drawing scale, I want to print my lots on a 24" x 36" piece of paper. The area in which I want to place the drawing is 22" x 31.5". Prior to starting this tech note, I created a part (rectangle) at a 1:1 drawing scale that is 22" x 31.5" and I can place this part on the drawing as pictured below. The image below shows the rectangle placed in the drawing and how the linework extends beyond the "printable area" defined by the rectangle.



If we were printing in Model Space and this rectangle defines the printable area of our title block, then we would have to manually trim the linework to fit the printable region. Fortunately, using Layout Mode and the View Command will allow us to quickly and efficiently insert a title block, define a new viewport and change contents of that viewport to a named view created using the View Command. Sound daunting? Don't be afraid. Once you see the final product and how simple it is to get to that product, you will be using Layout Mode everyday.

The View Command

The View Command allows us to save multiple views of the same drawing for later use. The View Command can be accessed from the View Pulldown menu by selecting View => Save/Restore View.



When you run the View Command, you will see the following on the command bar:

```
:_VIEW
View:  ? to list saved views/Delete/Restore/Save/Window:
```

You will also see this floating menu (by default this is on).

For this example, we want to select or type in Window.

On the Command line you will be asked:

```
:_VIEW
View:  ? to list saved views/Delete/Restore/Save/Window: w

Save view as:
```

For this example, I choose the name PAPER_SPACE_TECHNOTE.

You will then be asked to select the window area:

```
First corner of view window:
Opposite corner:
```

(Be sure to use your Intersection Object Snap to ensure you trace the rectangle exactly). Once we have traced the window exactly on the rectangle, the command is finished and the view is saved under the name you provided.

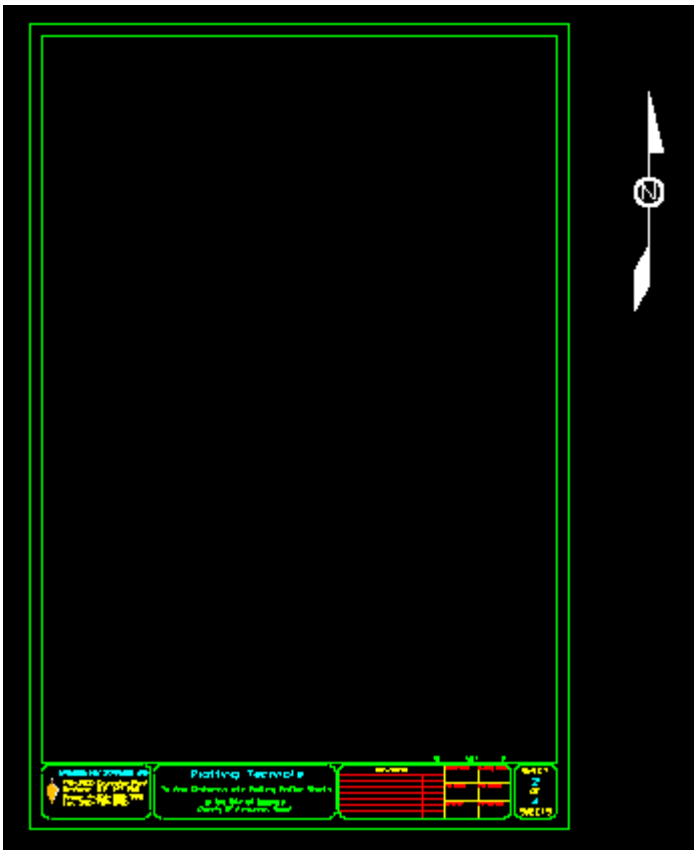
Layout Mode

1. Now we need to insert our Title Block into Paper Space. To do this we need to toggle to Layout Mode and insert a part. To do this we can choose simply pick on the Layout1 tab in the bottom left of the screen.

You can switch back to Model space by picking the Model tab.

I created the part at a 1:1 drawing scale (Feet) so I Insert the part at the same scale. This is the nice thing about Layout Mode. Everything is at a 1:1 scale.

The following image shows the Inserted Title Block in Layout Mode.



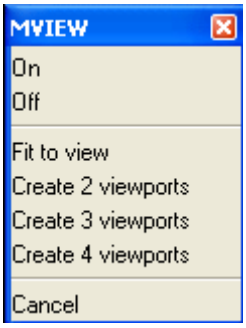
The inside border of the Title Block is exactly 22" x 31.5". This matches the area of the rectangle we inserted in Model Space. We must now create a Viewport along this inside border similar to how we created the view in the View Command.

2. To do this, select View menu => Layout Viewports (You can also type MVIEW and the command prompt).

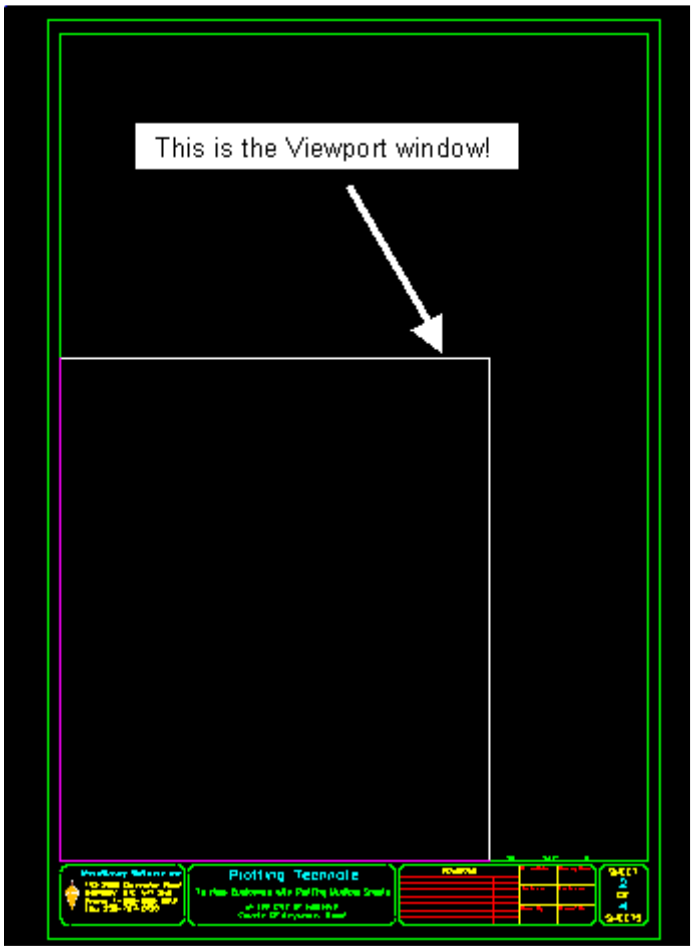
You will see the following on the command bar:

```
: _MVIEW
Viewports:  ON/OFF/Fit/2/3/4/<First corner>:
```

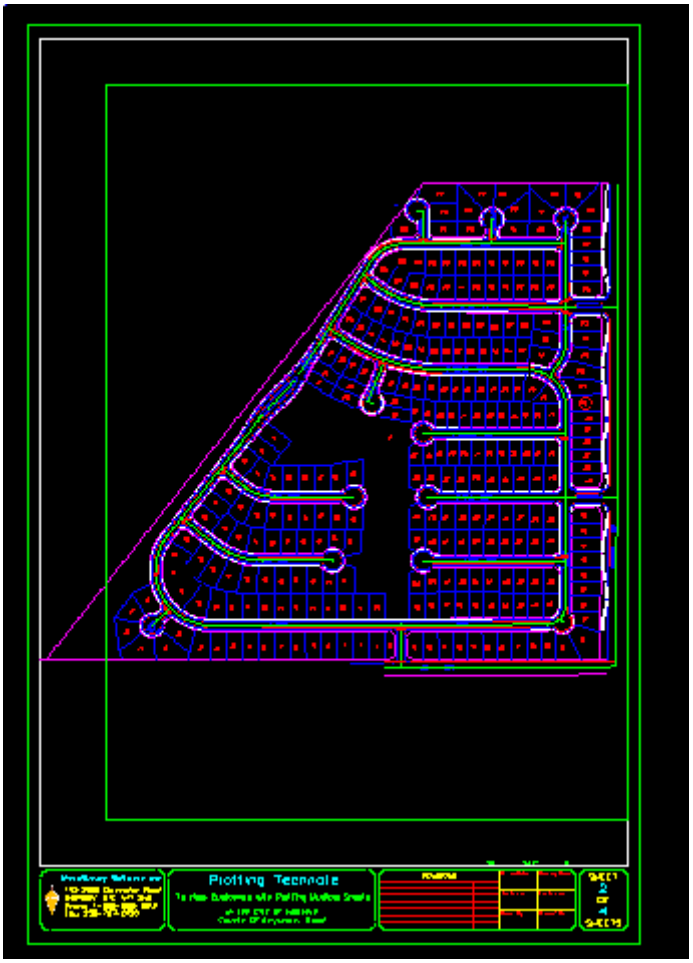
You will also see this floating menu (by default this is on).



You are being prompted for the <First Corner> of the viewport. As already mentioned, we will choose to select the inside border of our Title Block using our Object Snaps to trace the inside border exactly. The following image shows how your screen should look as you are "dragging" the window from the lower left to upper right of the inner border of the Title Block.



Once the viewport has been created, MicroSurvey will automatically bring the extents of your drawing (from Model Space) into the viewport. The figure below illustrates this.



This is, of course, not what we want to print.

3. To change the view we see through the viewport, we must first select it and then change the view to our previously stored view.

   To do this, select the View menu => Activate Layout Viewport. The viewport rectangle on screen will highlight with a bold line to let you know it is active.

   You can also simply double click the mouse inside the viewport to activate it.

   Now we need to run the View Command again.

When you run the View Command, you will see the following on the command bar:

```
:_VIEW
View:  ? to list saved views/Delete/Restore/Save/Window:
```

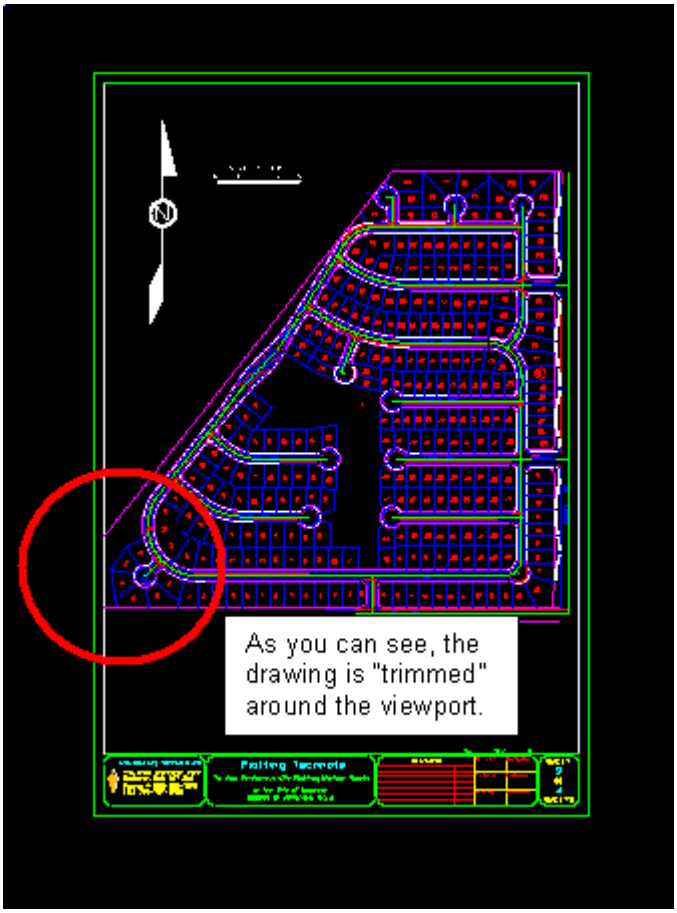
You will also see this floating menu (by default this is on).

At this point, we want to select or type in Restore.

On the Command line you will be asked for the View to Restore, we will type in the name we used earlier:

```
: view
View:  ? to list saved views/Delete/Restore/Save/Window: r
View to restore: paper_space_technote
```

You will see the drawing appear as desired in the viewport, as shown below:



After inserting my North Arrow and Scale Bar, I am ready to print my drawing. That's it. This is how easy printing is in Paper Space. For more information on printing, see the following TechNote on Plotting Described and Made Easy. You will, of course, print at a 1 to 1 scale as this is the scale of paper space.

If you are required to print multiple views and multiple sheets, simply save the views using the View Command, use/create the appropriate layout tabs, insert the appropriate title blocks and create new viewports in each of the title blocks on the layout tabs. You can then active the viewport and use the View command to set each of the viewports to the appropriate stored view.

This TechNote just touches the surface of the power of Paper Space. As always, the best way to learn about the program is to take a few hours and play with the program using temporary files. There is also a training movie in the help file in MSCAD2005, that covers an overview of Layout Mode. I hope this allows you to increase your production by reducing the time necessary to print your drawings.

This technical note was originally designed and written for MSCAD2002. It has now been rewritten and updated for MSCAD2005.

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