Lanc & Tully

Memo

To: All AutoCAD Users

From: Tom Hanley

Date: 5/28/2002

Re: Layer Management

Attachment: VPLAYER Help

The Problem…

Proper layer management is key to consistent drawing plots in AutoCAD. We are having difficulty managing our layers at Lanc & Tully and this has been an issue for some time. The main problem we are having is that we fail to leave the drawing in a "final plot" state. Typically what happens is a user opens a drawing file to make a small change and toggles some layers to make the job easier but fails to return the layers in the drawing to the way they found it. When the next user goes in to make a plot, they don't notice that some layers aren't on or are on erroneously in some viewports and the plot goes out to a client with data we didn't mean to send or missing the things they wanted to see in the first place.

How do we correct this?

AutoCAD offers several layer manager tools both in generic AutoCAD and Land Desktop 3.0 that allow you to save "layer states", however, none seem to be refined to the point that they are a practical solution to this type of problem. Our solution will have to be a procedural solution. The following recommendations should be applied to each drawing.

1. All layers should be "On" and "Thawed" in Model Space. This means if you need to work in model space, you can toggle layers off but remember to toggle them all back on afterward. It makes much more sense to work in the layout viewport model space.

2. Layer visibility is controlled at the viewport level. Users should be doing any editing "thru" the viewports.

3. The most difficult part of this procedure comes when setting layer visibility in the individual viewports of each layout.

    a. The VPLAYER command is the way to set the layer properties for all viewports in the drawing. This tool changes viewport layers both globally and locally within the current viewport. When creating a new layer, be aware that some objects may appear in existing or future viewports and must be addressed in each viewport. Also, when freezing existing layers, you must remember that you may be freezing layers in other viewports unintentionally. Attached is an excerpt for the AutoCAD help file on the VPLAYER command. It is a little difficult to work with this command and you need to do things in the right order to get it right. A simpler solution is to use the CVL.LSP program located in the S:\lisp subdirectory to set visibility for new or existing layers. I have included this routine in your custom menu pull down as well as in the L&T Lisp toolbar. If you are missing these options, I'll set them up for you.

b. LAYFRZ (Snowflake icon) command in the express tools we have with LDT3 is great for freezing a layer in a viewport by selecting an object on that layer. You must be in ModelSpace within the viewport to freeze the layer in that viewport.

c. Another less popular way to control visibility is in the LAYER command dialog box with "Show Details" enabled. This will show the status of layer properties in whatever "world" you are in (e.g. ModelSpace, Layout- PaperSpace, or Layout-ModelSpace viewport). It's easy to become confused with this command.

4. There are tools in AutoCAD to globally delete layers including layers that have objects on them. This can be dangerous and should only be used when you are absolutely certain that no other viewports are displaying any of these objects.

5. All layers in each drawing should conform to the Lanc & Tully layer standard. There will be times when we need special layers for something outside our normal scope of services. If it seems that we might be doing more of this type of work, we want to incorporate those layers into our approved layer standard. If the current layer structure is too stringent or needs rework, offer a list of layers you would like to see in the list and they will be reviewed and consolidated with other requests to keep the amount of layers as small as possible.

6. Any layers created for "temporary" or "construction" purposes should be labeled as such and removed at the earliest opportunity. Treat the drawing as if the next person going into it has no idea of what is going on and needs to make changes in a hurry. Can they figure out your layers quickly?

7. Purging drawings is important to reduce confusion as well as drawing size. You should not be afraid to purge a drawing and lose unused layers. There are files in the S:\Drafting Standards\ subdirectory that can be inserted to bring in layers, linetypes, textstyles, and dimstyles. Just insert the proper drawing as if it were a block and all the definitions come in. LAYERS-SURVEY.DWG and LAYERS-DESIGN.DWG contain the definitions. You can use AutoCAD Design center to bring in specific layers from these files as well.

8. The Layer Previous Command (LAYERP) is a new command in AutoCAD. This will help when that nasty layer isolate command fails to get you back to the way the layers were before you isolated them. It works like the Zoom Previous command. It will back through the layer configurations that were changed during your current editing session. You can find the icon to the right of the current layer name window in the Object Properties Toolbar.

There will be older drawings in projects that were created and setup with different techniques in mind and it may not seem cost effective to convert them to this technique. We have to assess the individual merits of conversion on a case-by-case basis. All new projects and most recent projects, where we are still in the early stages of development, should follow these guidelines and be converted to fit this scheme as soon as practicable.

This memo is not intended to answer all the different situations that you may come across but rather it has been compiled to raise awareness if our current situation. There is no all-encompassing solution. The software continues to change and we will continue to improve as the tools evolve. Please take the time to become familiar the vplayer command and the cvl.lsp routine. You should do this in a "practice" drawing so that you don't have someone upset that you changed all their viewport layers!

Please contact me if you have any questions concerning this procedure or need further clarification.

Thank You,

Tom Hanley