Chapter 11 Environmental Sheets

MHPC DOCUMENTATION

Quick Punch List

- Create a MHPCPlan.dgn using Make Sheetz
- Copy or Place New Clip Boundaries
- Create Cut Sheets
- Run Border Macro
- Place Legend
- Edit Sheet Info. (Title Only)
- Send to Color Plotter

VIEWING A PROJECT USING MHPC COLOR SCHEME

Step One: Start MicroStation

Double-click your MicroStation icon. Click the ***Project*** pull-down and pick on your PIN. Select **EnvPlan.dgn** from your list of files and click OK.

♫ Picking your project from the pull down should bounce you to your project's Environ\MSTA folder. If it doesn't, contact CADD Support.

Step Two: Creating a MHPC File

Go to **File>Make Sheetz.** When the dialog opens, select "No Prefix" and pick "Environ" as your workgroup (Figure 11-1). Click OK.

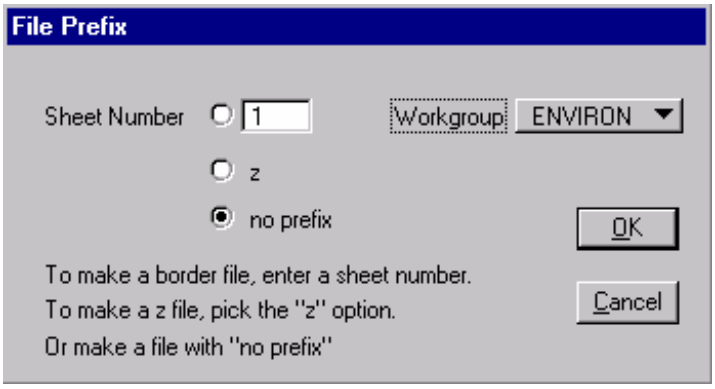

Figure 11-1: File Prefix and Workgroup Selected

From the list of available drawings pick MHPCPlan and click OK (Figure 11-2). This creates the new file and opens it.

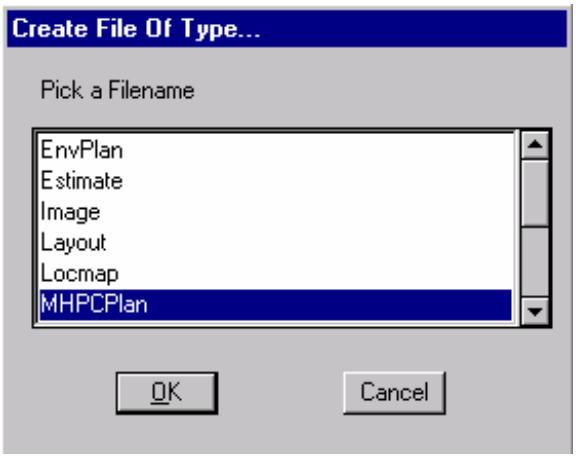

Figure 11-2: Select MHPCPlan

Step Three: Adjust Background to White

Select **Workspace>Preferences** from the Main Menu. In the next dialog, select **View**

Windows from the left side of the dialog. On the right, place a check in the *Black Background->White* box. Click OK (Figure 11-3).

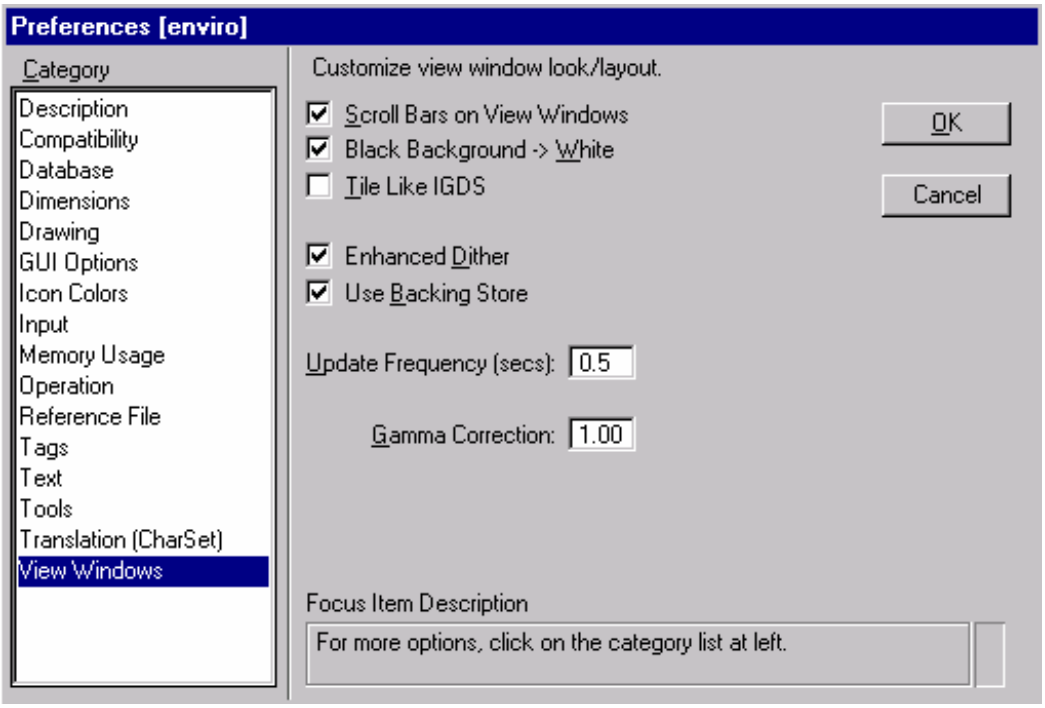

Figure 11-3: Preference set to White Background

Check your colors for accuracy. Sometimes you will find that standardization is not followed and you will need to adjust the colors of levels in a reference file or two. Do this in this file.

✓ *Please refer to 11-9 for more information on Changing colors Manually.*

♫ If your color scheme doesn't appear to be correct, make sure that your view attributes (**Settings>View Attributes)** has *Level Symbology* checked. It should set correctly by default. Contact CADD Support for more assistance.

CREATING MHPC PLAN SHEETS

Step One: Temporarily Attach HDPLAN or BDPLAN.dgn (Optional)

As a time saver you can use another programs *Clip Boundaries* instead of placing your own manually. Depending on the type of project *Bridge or Highway,* use **File>Reference DOT>Attach** and browse to the appropriate groups \MSTA directory and select **bdplan.dgn** or **hdplan.dgn.** No logical is needed, set the nesting to **Copy Attachments** and **depth** to "0" (or use **No Nesting)** and click OK.

♫ If there aren't any clip boundaries in the bdplan.dgn or the hdplan.dgn, you will have to place your own boundaries manually.

Step Two: Copy Clip Boundaries

Now we need to merge the clip boundaries into the active file. This will produce clip boundaries for the MHPC plans that cover the same area as the plans sheets for the project. This procedure is assuming that you want a MHPC plan for every plan sheet. If you only need a MHPC plan for specific areas on your project, place clip boundaries manually in your active file as you would when creating the normal plan drawings.

✓ *Refer to page 5-5 for the procedure on placing clip boundaries manually.*

In the Reference File dialog, highlight the reference file (**plan.dgn) then select **Tools>Merge Into Master** from the Menu Bar. Now you will be prompted to select a view by clicking a data point anywhere on your top view. An informational dialog will open telling you that you are about to merge one reference file into the current design file. This is what you want to do. Select **OK** to start the procedure. Refresh your window to update the view in order see your clip boundaries in the active file.

Step Three: Create the Cut Sheets

Part One: Activate Macro

From the *Settings Manager* select **Create Plan Sheets > Create Cut Sheets**.

Part Two: Flatten

A message will appear telling you that you are about to flatten the elements in your file. Click OK. Click OK to the default "0" elevation. Click on your view to finish the flatten command.

Part Three: Supply Starting Number

It asks you what number you want to use for the starting number of the MHPC plan sheets (Figure 11-4). Use the default "1". This will appear in your border as your sheet number.

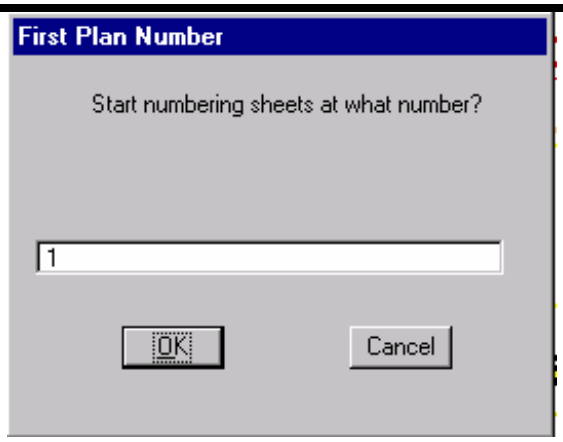

Figure 11-4: Start Numbering At?

Part Four: Sheet Name

The macro will enter in the sheet type for you (MHPCPlan). Click **OK** (Figure 11-5).

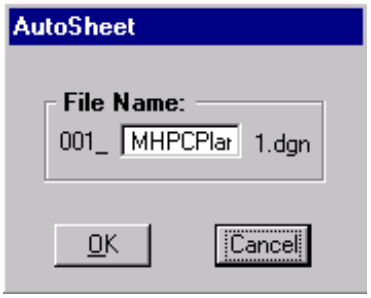

Figure 11-5: Enter File Name

Part Five: Select Saved View

The macro will create and open the first file. The program is going to attach MHPCPlan.dgn to this new file.

Notice the drawing name at the top left (Figure 11-6) of your MicroStation window.

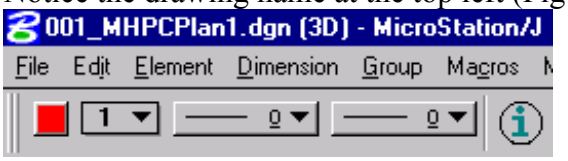

Figure 11-6: Note File Name

The first three characters of the drawing name will be identical to the name of the saved view that you want to attach. Select the saved view from the **Orientation** portion of the **Attach Reference File** dialog (Figure 11-7)**.** All other settings are correct by default. Click **OK.**

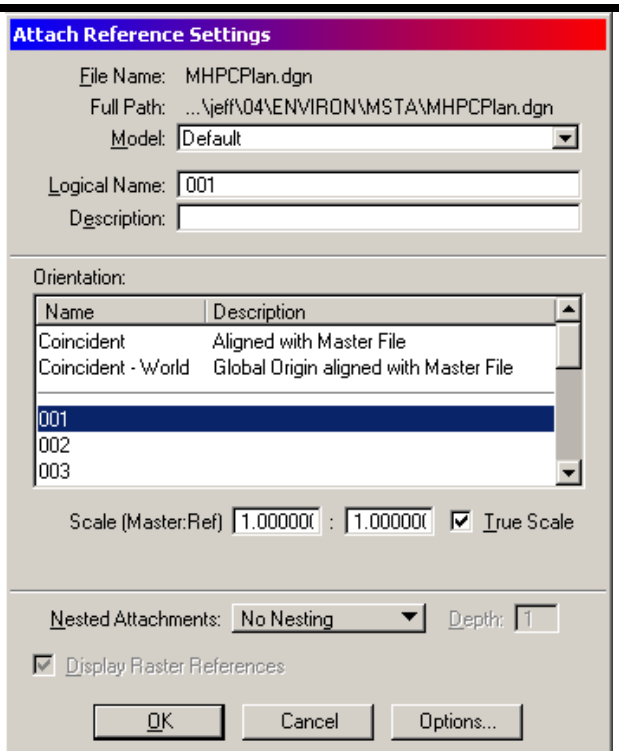

Figure 11-7: Pick a Saved View

ⓘ ***It is not necessary to adjust the* Nested Attachments *portion of this dialog. It is set to "Live Nesting" behind the scenes.***

Part Six: Repeat as Necessary

This process will repeat for every boundary element you placed.

ⓘ ***As you go through each drawing, verify the prefix of your filename then be sure to pick the saved view that matches.***

When you have finished attaching the last of the saved views you've made, it will drop you back into MHPCPlan.dgn. Open up the files you've just created and see how they look!

Step Four: Troubleshooting

If you open a MHPC plan sheet drawing and the graphics within the sheet are not correct, it could mean that one the drawings that is referenced in is not at the same Global Origin as the other drawings. If the graphics aren't aligned with your border, try and re-cut the sheets again. It won't be necessary to place new boundaries. Normally this will fix the problem. See CADD Support for assistance if needed.

EDITING MHPC PLAN SHEETS

Step One: Run the Border Information macro

The Border contains variables that can be replaced by a macro. It is not necessary to edit anything on this drawing that contains a $ or @ (i.e. $TOWNORCITY$). Select **Macros>Border Information** to run the macro. Process all of your sheets.

✓ *Please refer to PCF Editing on page 1-19 if the variables do not get filled in with the proper information.*

Step Two: Place MHPC Legend

Right click on the *Settings Manager* and select **Category>Scale.** Set the scale to 1 in. = 25 ft. (1:250 for metric) or 1 in. = 50 ft. (1:500 for metric). Select **Create Plan Sheets** from the left hand side of the *Settings Manager* (Figure 11-8).

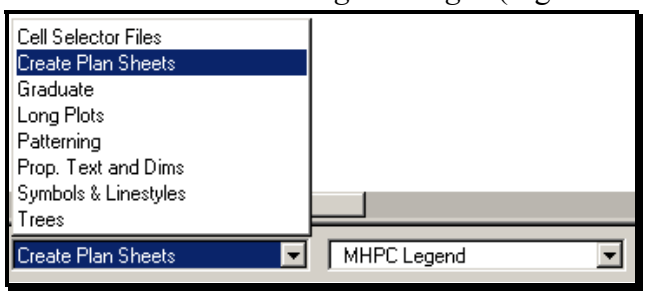

Figure 11-8: Create Plan Sheets

Select **MHPC Legend** from the right (Figure 11-9).

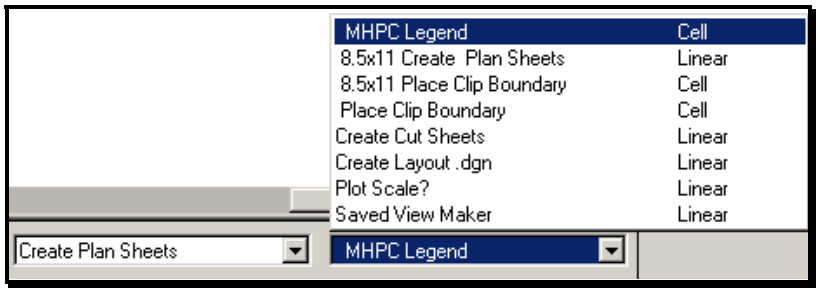

Figure 11-9: Pick MHPC Legend

Place the cell down where you want it with a left mouse click.

Step Three: Edit the Plan Type in the Title Box

The only text that needs to be edited on the border is the word "PLANS". Select **Text>Edit Text** from the menu and click on the word PLANS. When it highlights, click again to accept. When the *Text Editor* window opens, type MHPC in front of the words PLAN and hit *Apply.* Right Click to stop editing the text.

Step Four: Repeat as Necessary

Repeat **Step One** and **Step Two** on all of your ###_MHPCPlan#.dgn drawings.

ADJUSTING COLORS MANUALLY IN REFERENCE FILES

Sometimes you will find that standardization is not followed and you will need to adjust the colors of levels in a reference file or two.

If you need to adjust the symbology (colors) of a reference files, do this in the **MHPCPlan.dgn** file and the change will reflect on all of your plan sheets. Open your *Level Manager* by selecting **Settings>Level Manager** from the *Main Menu* (Ctrl+L). Make sure that the *Symbology* tab is set to **Overrides.**

Use **Quality>Analyze Element** and click on the element in question to find out what reference file the element resides in and the level it is on.

In the example below (Figure 11-10), the topo.dgn has two levels, **UTILS GRND** and **UTILS AERIAL,** that are the wrong color. They should be color "!4". Expand the directory tree on the left and select **topo.dgn.** Select a single or multiple levels on the right and click on either of the color boxes. A color chart will open (Figure 11-11) allowing you to pick the color to change it to. Click on the color to see the number associated to it. Click OK.

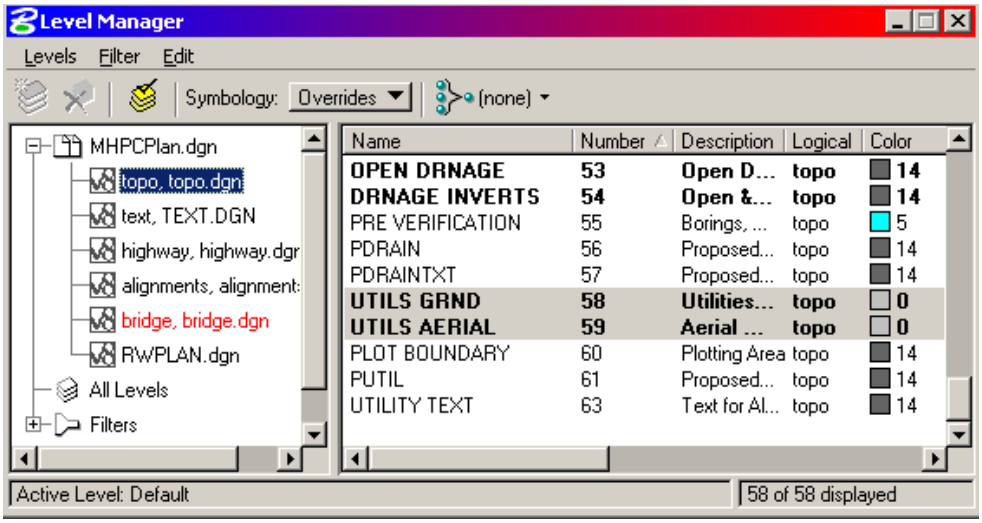

Figure 11-10: Example of selecting two levels within the topo reference file

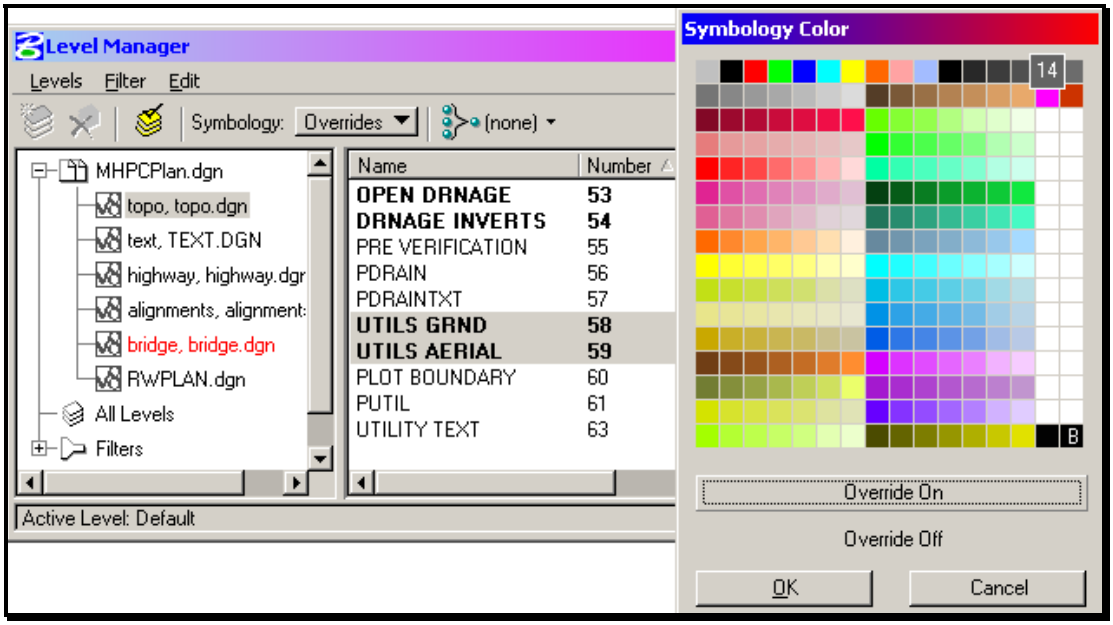

Figure 11-11: Example of selecting a new color for a level(s) within a reference file

Select **File>Save Settings** to save the adjustment.

BATCH PRINTING MHPC PLANS SHEETS

Step One: Open Batch Print Dialog

Select **File>Batch Print/Plot (DOT)** from the dialog Menu. Click Cancel at the *Open job Set* dialog window.

Step Two: Select a Printer

Highlight *Printer* from the *Specifications Controlling Plotting* area of the dialog. Select **Specifications>Select** from the menu or click the little green icon. Choose **US_HPCOLORRoom303** (**HPCOLORRoom303** for metric). Click OK.

Step Three: Select Print Area

Default *Print Area* **MDOT Standard** is correct by default for U.S. Customary projects. (Change this to **Divisions** for metric projects.)

Step Four: Select a Display (Pentable)

Highlight *Display* from the *Specifications Controlling Plotting* area of the dialog. Select **Specifications>Select** from the menu or click the little green icon. Choose **Color_MHPCplans** and click OK.

Step Five: Add Design Files

Select **Edit>Add Files** from the menu. Select all of your numbered MHPCplan drawings. Click the *Add* button. Click Done.

Step Six: Send the Plots

Click the printer icon or select **File>Print** from the *Batch Print dialog* menu to send all sheets to the plotter.

If you don't want to send them all, highlight only the files you want to plot. At this point you can send just the ones you have selected. Click OK.

WETLAND PLANS

Quick Punch List

- Copy or Place New Clip Boundaries
- Use Others or Create Cut Sheets
- Run Border Macro
- Send to Color Plotter

Need to Find Wetland Drawings?

The wetlands should be automatically attached if they were surveyed with the original topo.dgn or if the Topoadd and Textadd files have been cleaned up and merged properly. If they were picked up with other means (GPS) then they may be residing in a Topoadd and Textadd files sitting in the Survey/MSTA folder. Browse to the Survey/MSTA and open the Topoadds to see which one contains the wetland information. Use **File>Reference (DOT) Attach** and attach them to your Envplan.dgn using **Coincident World** method.

♫ In the near future, there will be a separate drawing for wetlands. Cleaning up the wetlands.dgn will be the responsibility of the Environmental staff. Details of the cleanup will be in Topo Cleanup section of this manual. The wetlands.dgn will be attached to Envplan.dgn by default, however there are many old projects that will require the users to attach it manually. The wetlands.dgn will exist in the **Survey\MSTA** folder within your PIN and will be copied into your **topo** folder and cleaned up. Additional wetlands will be handled very similar to the Topoadds.

✓ *Please refer to 3-50 for information on Wetlands cleanup.*

PLOTTING WETLAND PLANS FOR BIOLOGIST'S (USING OTHERS PLAN SHEETS)

Introduction

When plotting wetlands for checking purposes, it may be easier to use the plan sheets cut by another workgroup as opposed to creating your own. You can open someone else's plan sheets (i.e. 011_hdplan1.dgn or 005_bdplan1.dgn) to check and see if the information you need is displayed on them. If topo cleanup is done properly, wetland lines and flags should be displayed. If not, you can ask the Program (Urban and Arterial, Bridge or Regional) to go through the process of cleaning up the additional topo and text files and/or attaching the appropriate files. They should be displayed on their plans also.

Step One: Start MicroStation

Double-click your MicroStation icon. Click the ***Project*** pull-down and click on your PIN.

Step Two: Open Any Drawing

Select any file in your list of files in your workgroups \MSTA folder (i.e. Envplan.dgn). Click OK to open it.

Step Three: Batch Printing - Create a New Batch Job

Part One: Open Batch Print Dialog

Select **File>Batch Print/Plot (DOT)** from the dialog Menu. Click Cancel at the *Open job Set* dialog window.

Part Two: Select a Printer

Highlight *Printer* from the *Specifications Controlling Plotting* area of the dialog. Select **Specifications>Select** from the menu or click the little green icon. Choose **US_OCE9800FULL** or **US_OCE9400FULL** (OCE9800FULL or OCE9400FULL for metric). Click OK.

Part Three: Select Print Area

Default *Print Area* **MDOT Standard** is correct by default for U.S. Customary projects. (Change this to **OCE** for metric projects.)

Part Four: Select a Display (Pentable)

Highlight *Display* from the *Specifications Controlling Plotting* area of the dialog. Select **Specifications>Select** from the menu or click the little green icon. Choose **graysurvey_wetlands** and click OK.

Part Five: Add Design Files

Select **Edit>Add Files** from the menu. Depending on the type of project and who has cut the plan sheets, browse to the workgroup's MSTA folder (i.e. highway\MSTA or

bridge\MSTA). Select all of the plan sheet drawings (i.e. 011_hdplan1.dgn or 005_bdplan1.dgn). Click the *Add* button. Click *Done*.

Part Six: Save your Batch Print job

Select **File>Save As…** and give you Batch Print a logical name so you can print it again if the need arises (i.e. Wetland_ck_OCE9800.job).

Part Seven: Send the Plots

Click the printer icon or select **File>Print** from the *Batch Print dialog* menu to send all sheets to the plotter.

If you don't want to send them all, highlight only the files you want to plot. At this point you can send just the ones you have selected. Click OK.

CREATING WETLAND PLAN SHEETS FOR BIOLOGIST'S

Introduction

If you are required to create plan sheets for checking Wetlands and are unable to get what you need through another workgroups existing plan sheets, you can place your own clip boundaries or copy another workgroups clips into the Envplan.dgn without effecting other work to be done in the file (i.e. Army Corps. 8 ½ x 11 sheets).

Step One: Temporarily Attach HDPLAN or BDPLAN.dgn (Optional)

As a time saver you can use another programs *Clip Boundaries* instead of placing your own manually. Depending on the type of project *Bridge or Highway,* use **File>Reference DOT>Attach** and browse to the appropriate groups \MSTA directory and select **bdplan.dgn** or **hdplan.dgn.** No logical is needed, set the nesting to **Copy Attachments** and **depth** to "0" (or use **No Nesting)** and click OK.

♫ If there aren't any clip boundaries in the bdplan.dgn or the hdplan.dgn, you will have to place your own boundaries manually.

✓ *Refer to page 5-3 for the procedure on placing clip boundaries manually.*

Step Two: Copy Clip Boundaries

Now we need to merge the clip boundaries into the active file. This will produce clip boundaries for the Wetland plans that cover the same area as the plans sheets for the project. This procedure is assuming that you want a Wetland plan for every plan sheet. If you only need a Wetland plan for specific areas on your project, place clip boundaries manually in your active file as you would when creating the normal plan drawings.

✓ *Refer to page 5-3 for the procedure on placing clip boundaries manually.*

In the Reference File dialog, highlight the reference file (**plan.dgn) then select **Tools>Merge Into Master** from the Menu Bar. Now you will be prompted to select a view by clicking a data point anywhere on your top view. An informational dialog will open telling you that you are about to merge one reference file into the current design file. This is what you want to do. Select **OK** to start the procedure. Refresh your window to update the view in order see your clip boundaries in the active file.

Step Three: Create the Cut Sheets

Part One: Activate Macro

From the *Settings Manager* select **Create Plan Sheets > Create Cut Sheets**.

Part Two: Flatten

A message will appear telling you that you are about to flatten the elements in your file. Click OK. Click OK to the default "0" elevation. Click on your view to finish the flatten command.

Part Three: Supply Starting Number

It asks you what number you want to use for the starting number of the Wetland plan sheets. Use the default "1" (Figure 11-12). This will appear in your border as your sheet number.

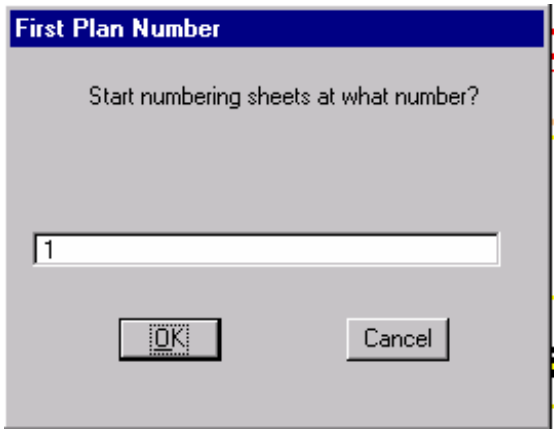

Figure 11-12: Start Numbering At?

Part Four: Change Sheet Name

The macro will give you the opportunity to edit the file name of your sheets. Change the default to **Wetland** (Figure 11-13). Click **OK**.

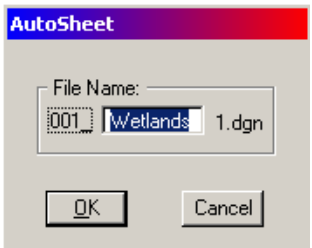

Figure 11-13: Enter File Name

Part Five: Select Saved View

The macro will create and open the first file. The program is going to attach Envplan.dgn to this new file.

Notice the drawing name at the top left of your MicroStation window (Figure 11-14).

Figure 11-14: Note File Name

The first three characters of the drawing name will be identical to the name of the saved view that you want to attach. Select the saved view from the **Orientation** portion of the **Attach Reference File** dialog (Figure 11-15). All other settings are correct by default. Click **OK.**

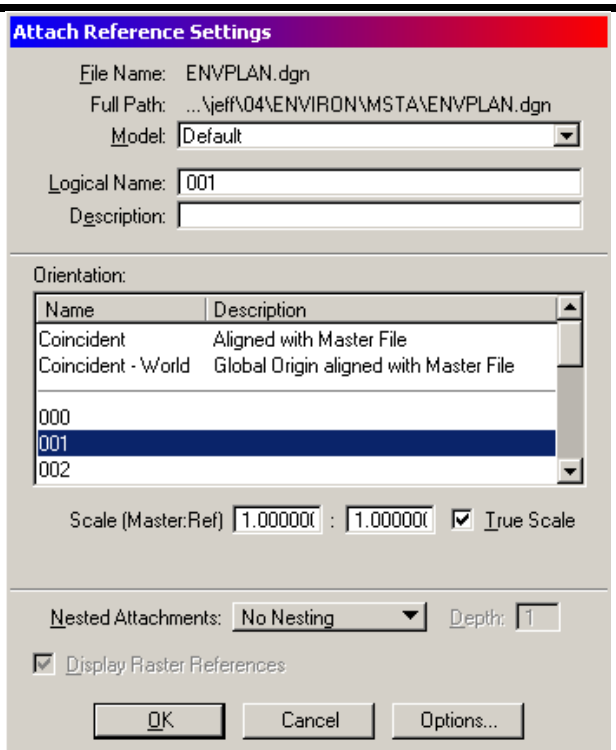

Figure 11-15: Pick a Saved View

ⓘ ***It is not necessary to adjust the* Nested Attachments *portion of this dialog. It is set to "Live Nesting" behind the scenes.***

Live Nesting

What is Live Nesting? This is a new method in MicroStation V8 of attaching a file with references to another file like our border sheets. By using Live Nesting you no longer need to use the old methods of **Batch>Attach** and **Batch>Settings** to manipulate the way you want your cut sheets to appear for plotting purposes. Now if you want to turn off certain levels, adjust displays of reference files or attach/detach additional reference files, you can simply do this in your source drawing (i.e. HDPlan, BDPlan, Envplan, etc.) and all of your border files will be displayed in the same manner.

Part Six: Repeat as Necessary

This process will repeat for every boundary element you placed.

ⓘ ***As you go through each drawing, verify the prefix of your filename then be sure to pick the saved view that matches.***

When you have finished attaching the last of the saved views you've made, it will drop you back into Envplan.dgn. Open up the files you've just created and see how they look!

Step Four: Troubleshooting

If you open a Wetland plan sheet drawing and the graphics within the sheet are not correct, it could mean that one the drawings that is referenced in is not at the same Global Origin as the other drawings. If the graphics aren't aligned with your border, try and re-cut the

sheets again. It won't be necessary to place new boundaries. Normally this will fix the problem. See CADD Support for assistance if needed.

Step Five: Batch Printing - Create a New Batch Job

Part One: Open Batch Print Dialog

Select **File>Batch Print/Plot (DOT)** from the dialog Menu. Click Cancel at the *Open job Set* dialog window.

Part Two: Select a Printer

Highlight *Printer* from the *Specifications Controlling Plotting* area of the dialog. Select **Specifications>Select** from the menu or click the little green icon. Choose **US_OCE9800FULL** or **US_OCE9400FULL** (OCE9800FULL or OCE9400FULL for metric). Click OK.

Part Three: Select Print Area

Default *Print Area* **MDOT Standard** is correct by default for U.S. Customary projects. (Change this to **OCE** for metric projects.)

Part Four: Select a Display (Pentable)

Highlight *Display* from the *Specifications Controlling Plotting* area of the dialog. Select **Specifications>Select** from the menu or click the little green icon. Choose **graysurvey_wetlands** and click OK.

Part Five: Add Design Files

Select **Edit>Add Files** from the menu. Select all of the plan sheet drawings you just created (i.e. 001_Wetlands1.dgn). Click the *Add* button. Click *Done*.

Part Six: Save your Batch Print job

Select **File>Save As…** and give you Batch Print a logical name so you can print it again if the need arises (i.e. Wetland_ck_OCE9800.job).

Part Seven: Send the Plots

Click the printer icon or select **File>Print** from the *Batch Print dialog* menu to send all sheets to the plotter.

If you don't want to send them all, highlight only the files you want to plot. At this point you can send just the ones you have selected. Click OK.

ARMY CORP. DOCUMENTATION

Quick Punch List

- Cross Hatch Areas
- Measure Areas/Place Text
- Place 8 ½ x 11 Clip Boundaries
- Create Cut Sheets
- Run Border Macro
- Send to Color Plotter

CROSS HATCHING WETLANDS

Introduction

This section is intended to provide assistance with some of the tasks related to the production of plans for submittal to the Army Corp. of Engineering. There are many ways to do the same thing in MicroStation, however to create standardization and efficiency, we encourage you to follow the steps outlined below.

Step One: Start MicroStation

Double-click your MicroStation icon. Click the ***Project*** pull-down and pick on your PIN. Select **EnvPlan.dgn** from your list of files and click OK. Click your *Fit View* icon.

Step Two: Locate the Wetlands

Check and see if the information you need is displayed on your Envplan.dgn. If topo cleanup is done properly, wetland lines and flags should be displayed. If not, you can ask the Urban and Arterial or the Bridge program to go through the process of cleaning up the additional topo and text files. They should be displayed on their plans also.

- In the near future, there will be a separate drawing for wetlands. Cleaning up the wetlands.dgn will be the responsibility of the Environmental staff. Details of the cleanup will be in Topo Cleanup section of this manual. The wetlands.dgn will be attached to Envplan.dgn by default, however there are many old projects that will require the users to attach it manually. Use **File>Reference (DOT) Attach** and attach them to your Envplan.dgn using **Coincident World** method.

Step Three: Lock "Z" to Zero

From the *Main Menu* select **Macros>Set/Lock Z** to force MicroStation to place all elements at "0.00" elevation in the file. Click **OK** for the defaulted "0".

- This will prevent MicroStation from jumping to elements at different depths in the file.

Step Four: Set the Category Scale

Right Click on your *Settings Manager* and select **Category>Scale.** From the list of available scales, select the scale that you intend on plotting your sheets. Normally a good scale that is still legible on 8 ½ x 11 plan sheets is 1" = 50 ft. for U.S. Customary (1:500 metric).

- If you use the *Settings Manager* for almost any activity, it is required that you set the **Category Scale** first. This has to be set once in every file.

Step Five: Cross Hatching Wetlands

Part One: Select Hatching

Use the *Settings Manager* and select **Patterning>45^Hatching** for "Wetland Impacts" or use **Patterning>45/135XHatching** for "Wetlands of Special Significant Impacts". (These types coincide with the legend on the 8 ½ x 11 plan sheets.)

Part Two: Set Hatching Method

The setting in the *Hatch Area* or *Cross Hatch Area* dialog should be correct based on the *Category Scale* set in the *Settings Manager.* Adjust the *Method* to **Points** (Figure 11-16).

- Using *Points* method instead of *Flood* will place a bounding element around the area you are hatching which will allow you to label the areas all at once.

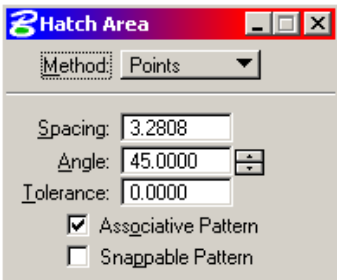

Figure 11-16: Hatch Area/Cross Hatch Area Dialog Settings

Part Three: Create Hatch Area

Using *AccuDraw* and the available snap methods, hit the intersection and the vertices of the elements that bound your area. Right click when you've hit them all to finish the command.

- If you have missed a point and need to add a vertex or want to modify and existing vertex, use the tools in the *Modify Tool Box* to accomplish this. Because we used *Associative Patterning,* the pattern will adjust itself to the new shape.

ADDING FILLED SHAPES

Step One: Set the Shade Type

Select **Patterning>Shade 20%** (or another degree of shade). By Default, the settings for this tool should be correct.

Step Two: Create the Shape

Using *AccuDraw* and the available snap methods, hit the intersection and the vertices of the elements that bound your area. Return to beginning point or hit *Close Element* to end command.

♫ If you have missed a point and need to add a vertex or want to modify and existing vertex, use the tools in the *Modify Tool Box* to accomplish this.

Step Three: Send Fill Back

From the *Main Menu,* select **Macros>Send Fill Back**. This will allow other line work and text to be seen in front of the shading. Hit **Refresh.**

Step Four: Reset the Fill Type

If you are finished using the Shape command, you need to tell MicroStation to stop using **Opaque** fill otherwise future areas or hatching that you do will be filled solid. To do this, select **Qualities>Change>Fill** from the *Main Menu*.

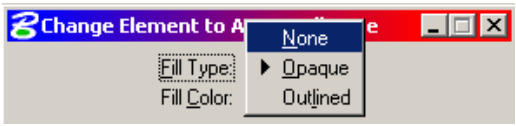

Figure 11-17: Change Fill Type to None

In the dialog (Figure 11-17), change *Fill Type* to **None.**

MEASURING AREAS AND PLACING TEXT

Step One: Lock "Z" to Zero

From the *Main Menu* select **Macros>Set/Lock Z** to force MicroStation to place all elements at "0.00" elevation in the file. Click **OK** for the defaulted "0".

♫ This will prevent MicroStation from jumping to elements at different depths in the file.

Step Two: Set the Category Scale

Right Click on your *Settings Manager* and select **Category>Scale.** From the list of available scales, select the scale that you intend on plotting your sheets. Normally a good scale that is still legible on 8 ½ x 11 plan sheets is 1" = 50 ft. for U.S. Customary (1:500 metric).

♫ If you use the *Settings Manager* for almost any activity, it is required that you set the **Category Scale** first. This has to be set once in every file.

Step Three: Set the Text Attributes

Using the *Settings Manager,* select **Prop. Text and Dims>Text Note.** This will set your text to the correct height, width, color, level, style and weight.

Step Four: Open Measure Area Tools

Select **Measure>Area Tools** from the *Main Menu.* A new set of tools should open.

In the rightmost tool in the *Tool Box* (Figure 11-18), set some *Parameter Settings*.

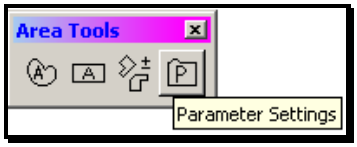

Figure 11-18: Area Parameter Settings

Part One: Set the Default Text Font

While in the **Text** tab, set the **Font** to **123 dotitalics** (Figure 11-19). This is the only setting necessary on the tab.

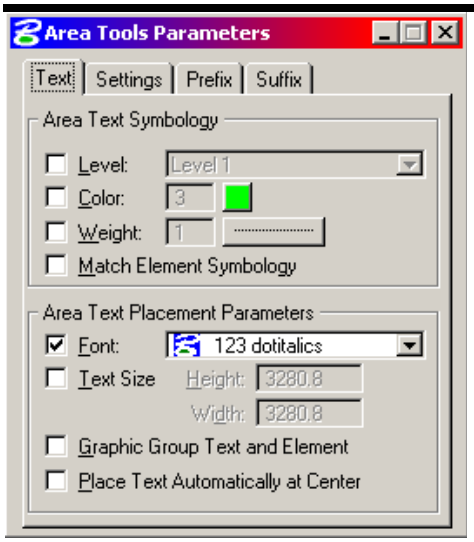

Figure 11-19: Adjust Text Font to 123 dotitalics

Part Two: Set the Default Prefix

Click on the *Prefix* tab (Figure 11-20). Add a prefix that you would like to use. (i.e. Wetlands =). You're limited to ten characters.

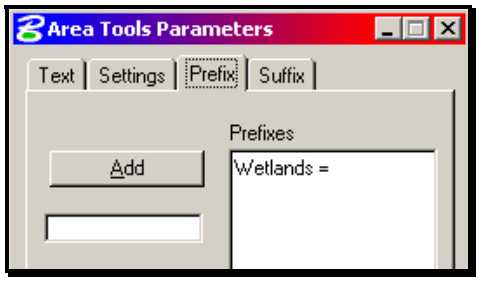

Figure 11-20: Add a prefix

Part Three: Set the Default Suffix

Click on the *Suffix* tab (Figure 11-21). Add a suffix that you would like to use. (i.e. s.f. or m\178 for metric). You're limited to ten characters.

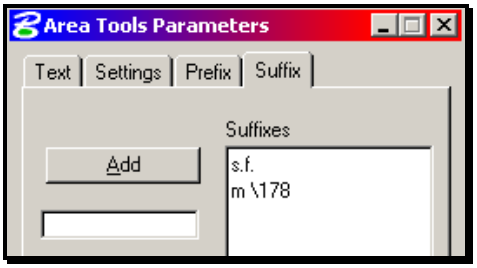

Figure 11-21: Add Suffixes

Step Five: Select by Attributes

You can select all of your hatched areas, measure and label them all at once with one click to the screen.

Select **Edit>Select By Attributes** from the *Main Menu.* Select **Tools>Set Select By from Element** in the *Select by Element* dialog box. Click on one of the hatched areas. Click again to *Accept.* Now hit **Execute.** This should highlight all of the hatched areas.

♫ If you want to measure and label shaded area, you will have to select one of those areas and hit execute to select them all.

Step Six: Select Measure Area Tool

From the *Area Tools* toolbox (Figure 11-22), select *Measure Area.*

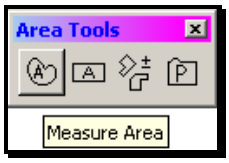

Figure 11-22: Measure Area Tool

Configure area tool for the method, prefix and suffix. Select **Element** from the *Method* pull down and place a check in the *Prefix* and *Suffix* boxes and select the corresponding pull down and pick one of your preset options. **Click** in your view to *Accept* the command.

This should label all of your areas. The orientation of the text will be horizontal to your current view window which means you will have to rotate and possibly move text. Use the **Rotate Element** tool and set method to either **2 points** or **3 points.** Follow the prompts.

ⓘ ***If you cannot see the text for your areas, check that you have done all the steps in this section.***

Step Seven: Select None

Select **Edit>Select None** to unselect your hatching. Close the **Select by Attributes** dialog and click **Cancel** to tell MicroStation to stop filtering by the hatched attributes.

Step Eight: Edit the Text (Optional)

You can use the *Edit Text* tool to add additional verbiage to your area text. While the text is in your *Text Editor* window, you can click on another type of text placement such as *Place Note* (Figure 11-23). This will allow you to point with an arrow to small areas that cannot be labeled clearly.

♫ You may have to select a dimension placement from your *Settings Manager* first in order for the arrowhead to be filled in.

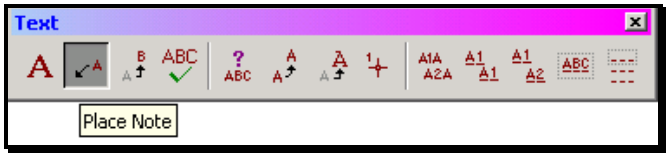

Figure 11-23: Place Note tool

Consider changing the default setting of the tool and selecting **Box** as a *Text Frame* (Figure 11-24). This will make your text stand out and if masking is required, it will make it easy to place a fence around your text.

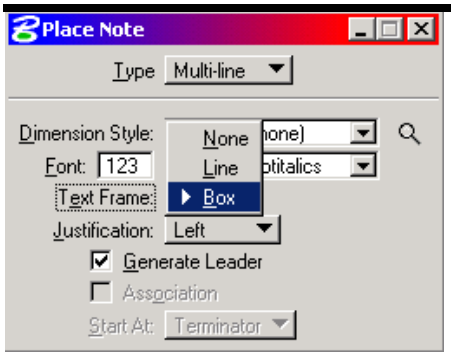

Figure 11-24: Using a Box text Frame

Place the text and delete the old text.

Step Nine: Masking References (Optional)

If the text you placed is obscured by reference files, place a fence around your text and select **File>Reference (DOT)>Clip>Mask>All** if you want to mask all elements in all references or **File>Reference (DOT)>Clip>Mask>Single** and click on the specific reference file you want to mask. Click on the view to *Accept.*

Or, you can also open your reference file dialog and highlight the specific reference file(s) you want to mask and select **Tool>Clip Mask.**

CREATING 8 ½ X 11 CUT SHEETS

Step One: Set Category Scale

Right click on the *Settings Manager* and select **Category>Scale.** Select the scale you want to use for your cut sheets. 1 in. = 50 ft. (1:500 metric) is a good scale to use. This scale will still allow the stationing and existing text to be legible. This should be the same scale you used to place your text for the areas.

Step Two: Place 8 ½ x 11 Clip Boundaries

Select **Create Plan Sheets>8.5x11 Place Clip Boundary** from the *Main Menu.* You will have a rectangle on your cursor waiting for placement. You are holding the portrait page by the left most edge of an 8 ½ x 11 piece of paper. With your first click, place the boundary above your stationing and move your cursor to rotate the page. Click again to define the amount of rotation. Continue placing boundaries for the length of your project.

♫ You can stop at any time (by right clicking) and move and/or rotate your boundaries. Restart the placement if necessary.

ⓘ ***You must keep the boundaries in order! This will determine the creation order of the cut sheets.***

✓ *Refer to page 5-3 for the procedure on placing clip boundaries manually.*

Step Three: Create the Cut Sheets

Part One: Activate Macro

From the *Settings Manager* select **Create Plan Sheets > 8.5x11 Create Plan Sheets**.

Part Two: Flatten

A message will appear telling you that you are about to flatten the elements in your file. Click **OK**. Click **OK** to the default "0" elevation. Click on your view to finish the flatten command.

Part Three: Supply Starting Number

The macro asks you what number you want to use for the starting number of the cut plan sheets. Use the default "1" (Figure 11-25). This will appear in your border as your sheet number. (Consider using "2" if you plan on including a Title Sheet.)

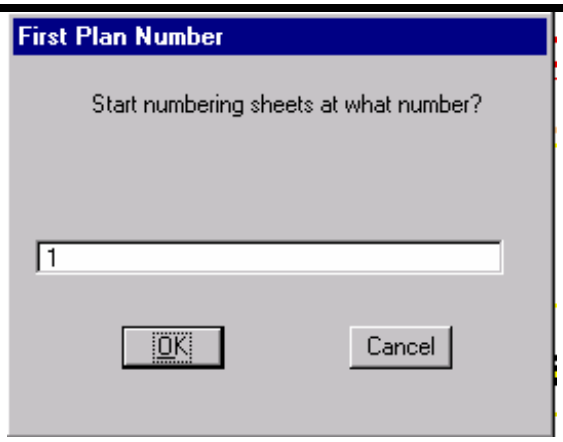

Figure 11-25: Start Numbering At?

Part Four: Sheet Name

The macro will give you the opportunity to edit the file name of your sheets (Figure 11-26). Click **OK**.

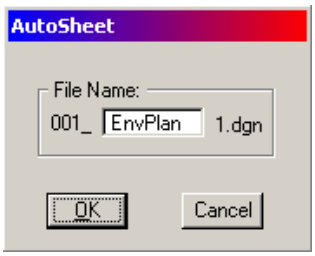

Figure 11-26: Default Name for sheets

Part Five: Select Saved View

The macro will create and open the first file. The program is going to attach Envplan.dgn to this new file.

Notice the drawing name at the top left of your MicroStation window (Figure 11-27).

Figure 11-27: Note File Name

The first three characters of the drawing name will be identical to the name of the saved view that you want to attach. Select the saved view from the **Orientation** portion of the **Attach Reference File** dialog (Figure 11-28). All other settings are correct by default. Click **OK.**

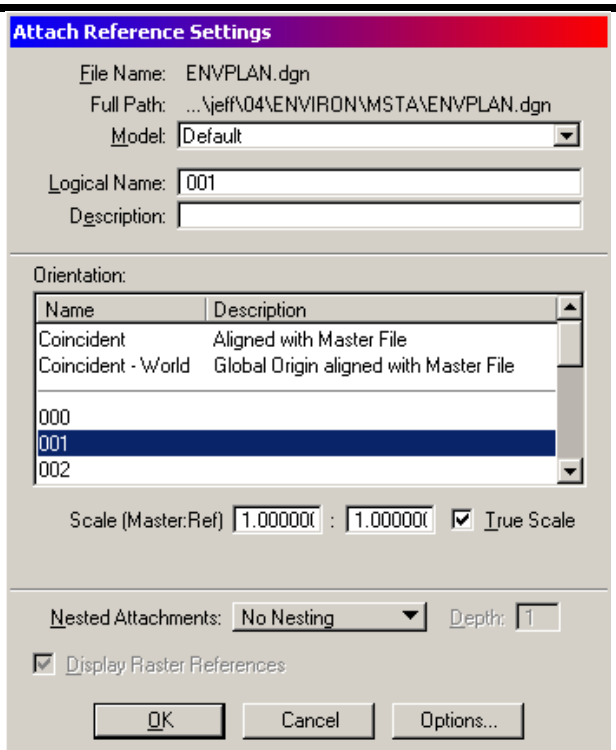

Figure 11-28: Pick a Saved View

ⓘ ***It is not necessary to adjust the* Nested Attachments *portion of this dialog. It is set to "Live Nesting" behind the scenes.***

Part Six: Repeat as Necessary

This process will repeat for every boundary element you placed.

ⓘ ***As you go through each drawing, verify the prefix of your filename then be sure to pick the saved view that matches.***

When you have finished attaching the last of the saved views you've made, it will drop you back into Envplan.dgn. Open up the files you've just created and see how they look!

Step Four: Troubleshooting

If you open a plan sheet drawing and the graphics within the sheet are not correct, it could mean that one the drawings that is referenced in is not at the same Global Origin as the other drawings. If the graphics aren't aligned with your border, try and re-cut the sheets again. It won't be necessary to place new boundaries. Normally this will fix the problem. See CADD Support for assistance if needed.

Step Five: Run the Border Information macro

The Border contains variables that can be replaced by a macro. It is not necessary to edit anything on this drawing that contains a $ or @ (i.e. $TOWNORCITY$). Select **Macros>Border Information** to run the macro. Process all of your sheets.

- ✓ *Please refer to PCF Editing on page 1-19 if the variables do not get filled in with the proper information.*

BATCH PRINTING 8 ½ X 11 CUT SHEETS

Step One: Open Batch Print Dialog

Select **File>Batch Print/Plot (DOT)** from the dialog Menu. Click Cancel at the *Open job Set* dialog window.

Step Two: Select a Printer

Highlight *Printer* from the *Specifications Controlling Plotting* area of the dialog (Figure 11-29). Select **Specifications>Select** from the menu or click the little green icon. Choose **Standard Details**. Click OK.

Step Three: Select Print Area

Highlight *Print Area* from the *Specifications Controlling Plotting* area of the dialog (Figure 11-29). Select **Specifications>Select** from the menu or click the little green icon. Change the default *Print Area* to **Standard Details** and click OK**.**

Step Four: Select a Display (Pentable)

Highlight *Display* from the *Specifications Controlling Plotting* area of the dialog (Figure 11-29). Select **Specifications>Select** from the menu or click the little green icon. Choose **Standard Details** and click OK.

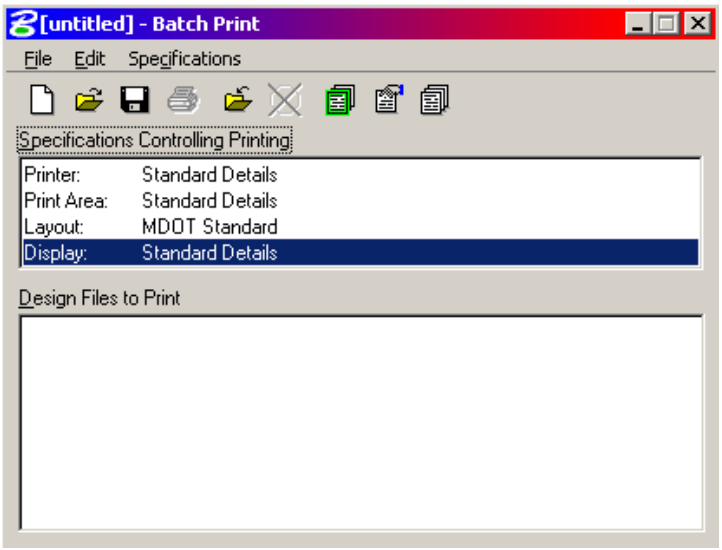

Figure 11-29: Batch Print Setup

Step Five: Add Design Files

Select **Edit>Add Files** from the menu. Select all of the plan sheet drawings you just created (i.e. 001_EnvPlan1.dgn). Click the *Add* button. Click *Done*.

Step Six: Save your Batch Print job

Select **File>Save As…** and give you Batch Print a logical name so you can print it again if the need arises (i.e. EnvPlan_ArmyCorp_printer.job).

Step Seven: Send the Plots

Click the printer icon or select **File>Print** from the *Batch Print dialog* menu to send all sheets to the plotter.

If you don't want to send them all, highlight only the files you want to plot. At this point you can send just the ones you have selected. Click OK.

♫ This printer setting will send your plots to your default Windows printer.

After you click OK, you can pick which Windows printer to use by selecting *Set Up System Printer* from the *Print Batch* dialog (Figure 11-30).

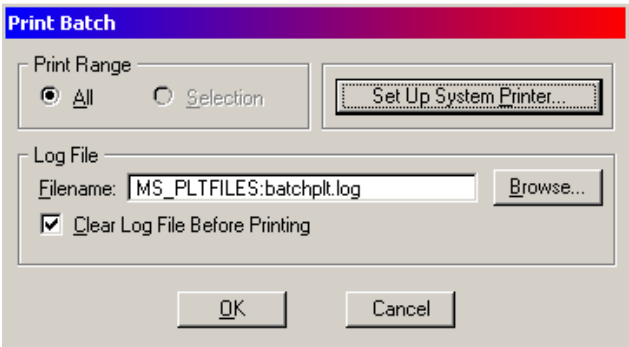

Figure 11-30: Select Set Up System Printer

Select one of your system printers from your list of available printers. Consider using a black and white photocopier. Click OK.