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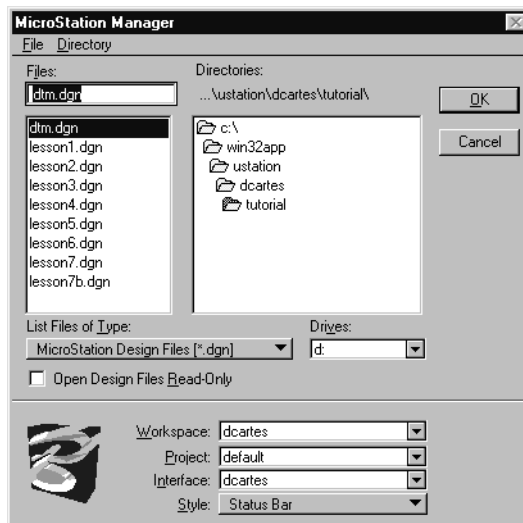
Introducing Image Draping

Draping an Image - Tutorial

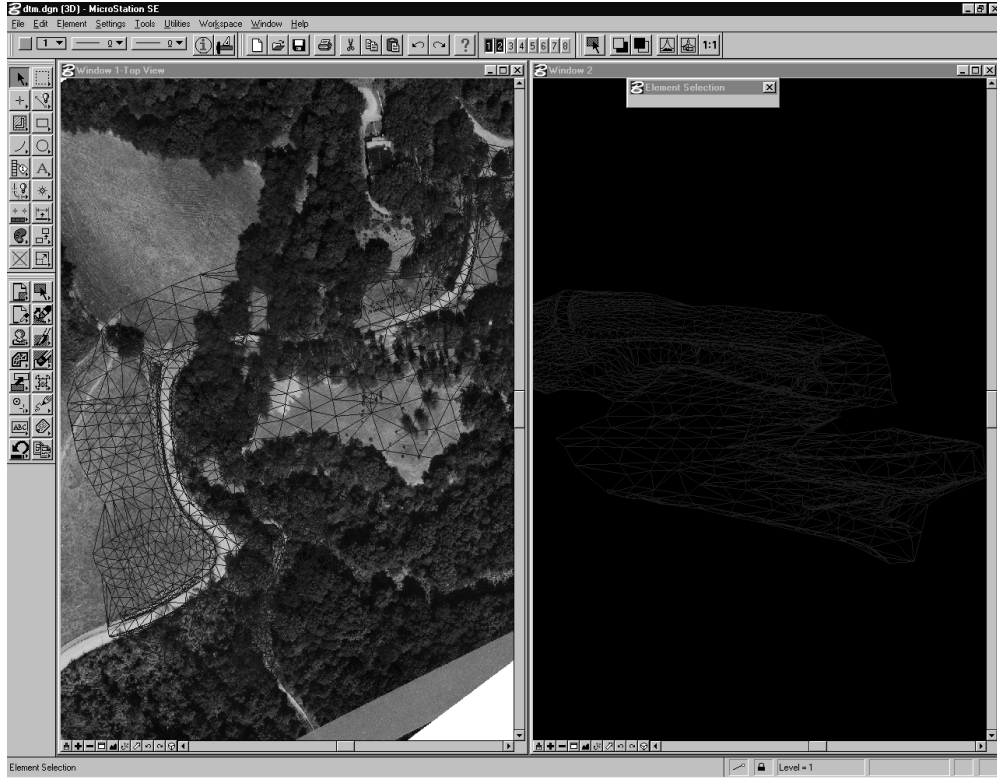
Now that we have covered the basics of draping with an overview of the process, we are prepared to drape an image.

► Setup for draping

1. Start Microstation SE.
The MicroStation Manager dialog box opens.
2. Set the settings as follows:



3. Click OK.



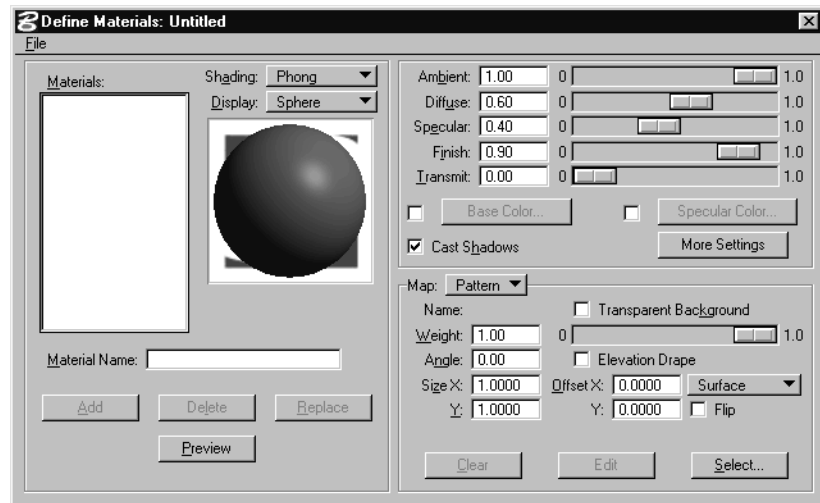
☞ The design file has been set for two open views, **1** and **2**. View **1** is the TOP view and View **2** is the ISOMETRIC view.

☞ The design file is already attached to a project for the image, *DRAPE.HMR*, and opens automatically.

The environment is ready for draping. We will now create a local palette file.

► **Creating the custom palette file**

1. From the Settings menu, select Rendering > Define Materials. The Define Materials dialog box opens.



2. Turn on Base Color and Specular Color.
3. In the Material Name field, enter Template.
4. Press <Return> and click the Add button.
5. From the Define Materials File menu, select Save Palette As.
6. Browse into the \dcartes\tutorial directory and enter MYPALLETTE as the file name and click OK.

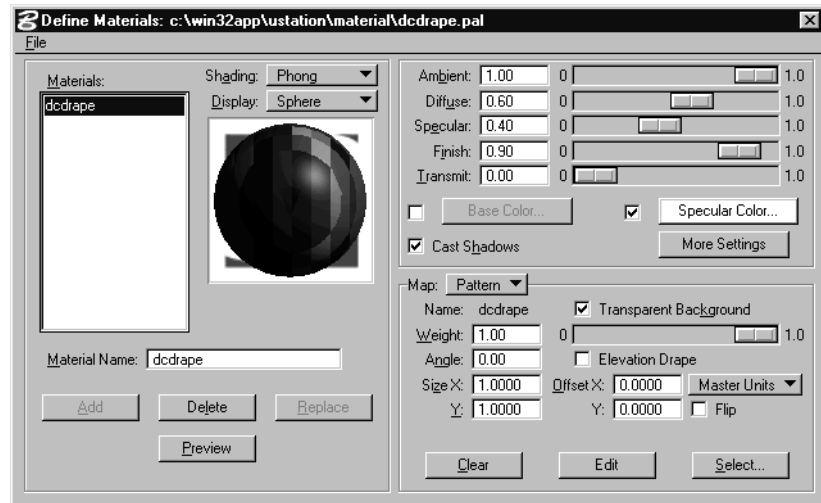
This creates a custom palette file where all materials will now reside. It will not be a reference to the material; therefore, if something should happen to your MicroStation directory structure, your materials will not be affected.

The next step is to add the required materials to our palette. For this exercise, we will need the MicroStation Descartes Procedural Material named DCDRAPE.PMA. Extract the Procedural Material by opening the Palette File containing its definition and add it to our custom palette.

► **Adding the DCDRAPE material**

1. From the Define Materials File menu, select Open Palette.
2. Find and open DCDRAPE.PAL from the ustation\material directory.

- From the Material pane, highlight the DCDRAPE item.
This stores the properties in the Define Materials dialog box.



- Open the custom palette file, MYPALETTE.PAL.

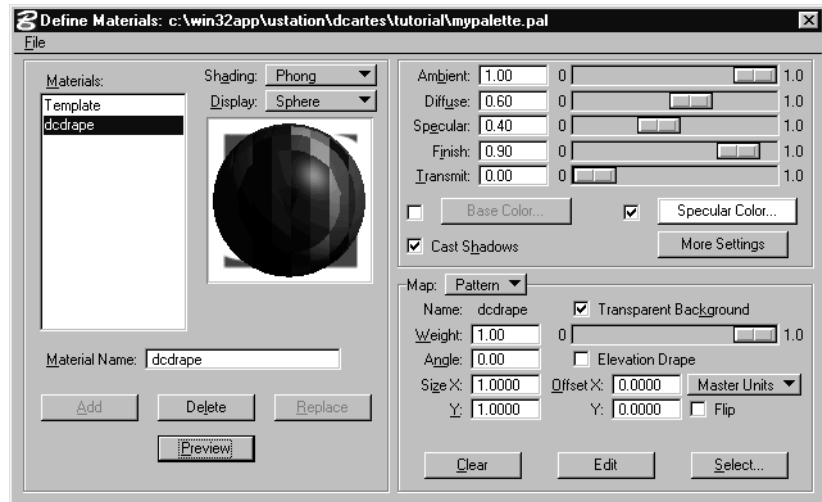
Notice the settings for the DCDRAPE material remains the same, as the material template had already been defined. Now it is possible to assign the DCDRAPE Procedural Material to a template or to add it to the list.

► Adding the DCDRAPE material to our list

- Click on the Material Name field and press the <Return> key.
This enables the Add button.

2. Click Add.

Note that the DCDRAPE material is now in the list.



3. Close the Define Materials dialog box.

An Alert box opens asking if you wish to save the changes to the MYPALETTE.PAL file.

4. Click Yes.

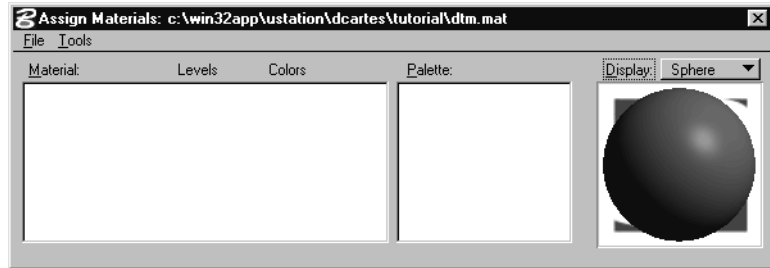
👉 The creation of the palette is performed only once. From this point on, you will be working from the MYPALETTE.PAL palette file.

👉 If you wish to add more materials to your palette file, simply follow the steps above.

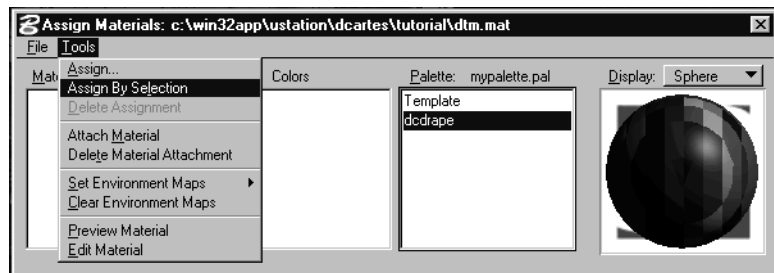
The last step before draping is to instruct the Rendering process to which element(s) the DCDRAPE procedural material is to be applied. To do this, we will use the Assign Materials dialog box.

► **Assigning the DCDRAPE material to the 3D model DTM**

1. From the Settings menu, select Rendering > Assign Materials.
The Assign Materials dialog box opens.



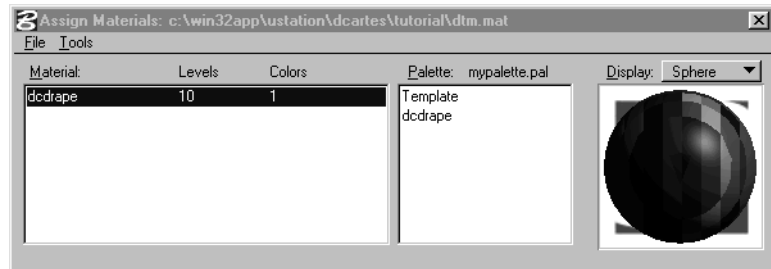
2. From the Assign Materials File menu, select Open Palette.
3. Open your custom palette, MYPALETTE.PAL.
Note that this creates a Material Table file named after the prefix name of the master design file, in this case, DTM.DGN.
4. From the Palette pane, highlight DCDRAPE.
From the Assign Materials Tools menu, select Assign By Selection.



5. From any view, identify a *blue* element from the DTM.

- Accept the element by entering a data point in the *background* of the view away from any element.

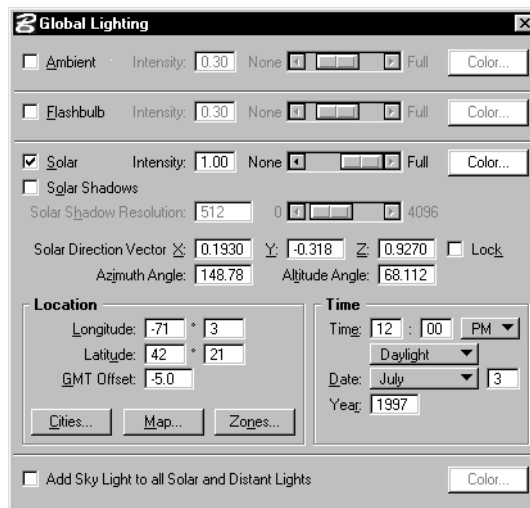
Notice the left pane showing the assignment of the DCDDRAPE material. The DCDDRAPE material is assigned to *ALL BLUE(1) elements located on LEVEL 10*.



- Close the Assign Materials dialog box and click Yes when prompted to save the changes.

► Draping the image

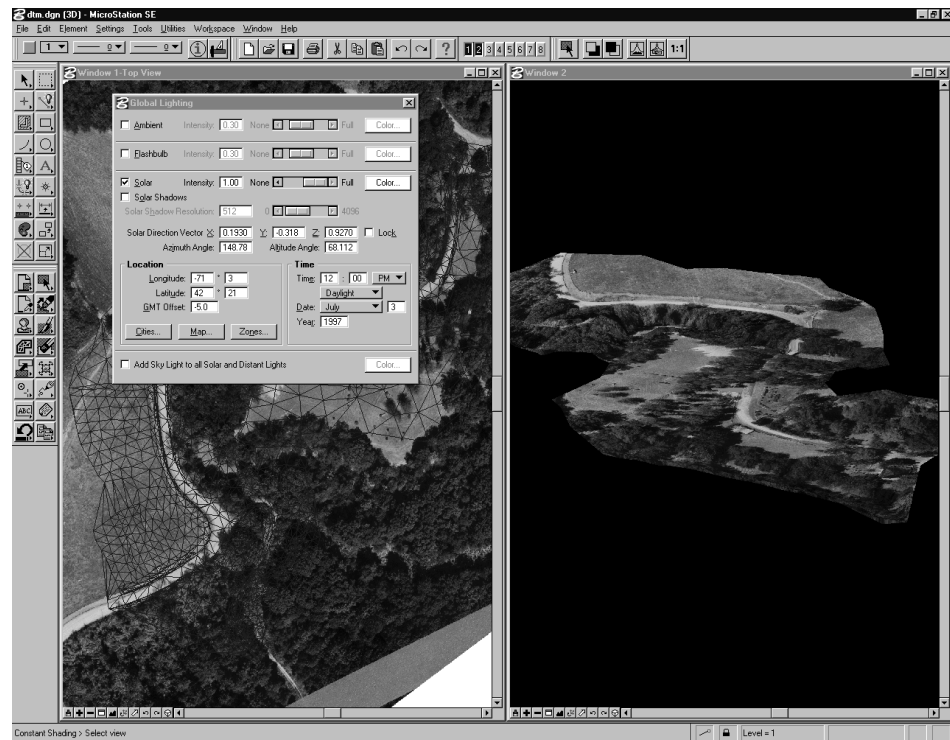
- From the Settings menu, select Rendering > Global Lighting. The Global Lighting dialog opens. Ensure that Solar is turned on and that Ambient, Flashbulb and Solar Shadows are off.



- From the Location group, click the Cities button then highlight Boston and click OK.

This sets the Solar Lighting for the city of Boston and will be applied according to the Time Date and Year settings.

3. From the Time group, ensure that the following parameters match:
 - Time:* 12:00 PM
 - Daylight*
 - Date:* July 3
 - Year:* 1997
4. Ensure that Add Sky Light to All Solar and Distant Lights is off.
5. From the Utilities menu, select Render > Phong.
6. Enter a data point in View 2.
Watch as the draping is processed.



Setting Light for the Scene

Draping uses the MicroStation Rendering engine. Rendering is directly related to lighting. Adding lights makes the draping more visible. Removing all light renders the rendered view in complete darkness, whereas nothing will be visible. There are different

types of lighting for this exercise. We will explore Flashbulb and Gamma Correction.

In the previous draping exercise, Solar Lighting parameters were set for noon on a sunny July day in 1997 thus the brightest time of day. Our draped image would be darker if we were to change the time of day parameter, thereby changing the inclination of the sun reducing the sunlight. An alternative way of obtaining more light for this scene is to add a Flashbulb and/or to increase the Gamma Correction factor.

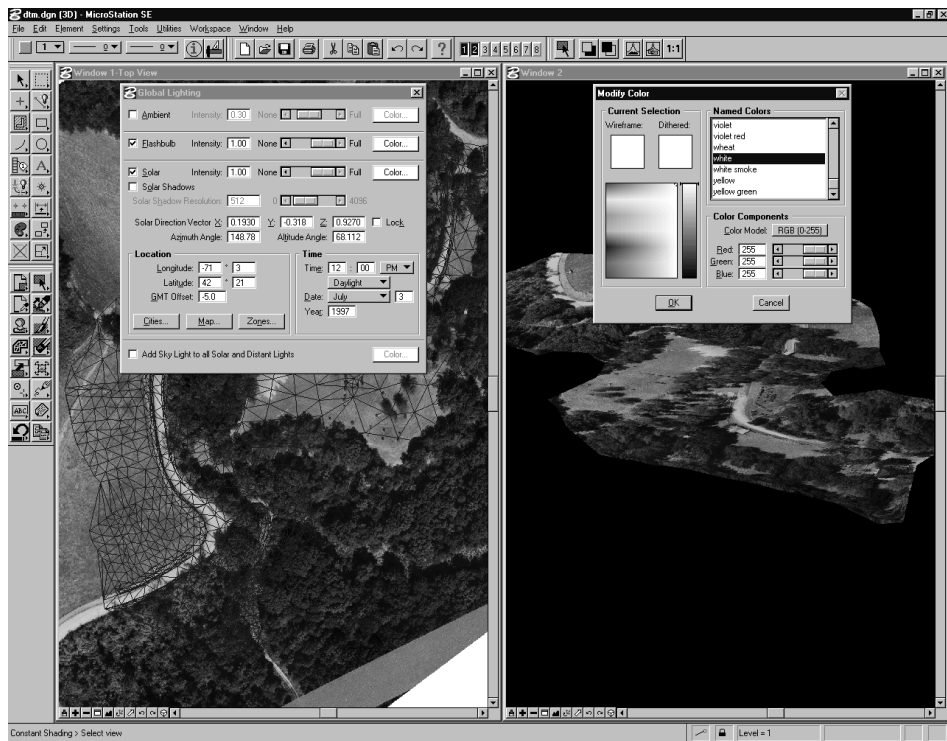
► Adding a Flashbulb

1. From the Settings menu, select Rendering > Global Lighting. The Global Lighting dialog box opens.

2. Turn on Flashbulb and set the other parameters as follows

Intensity: 1.0

Color: White



3. Close the Global Lighting dialog box.

4. Phong Render View **2** by clicking View.

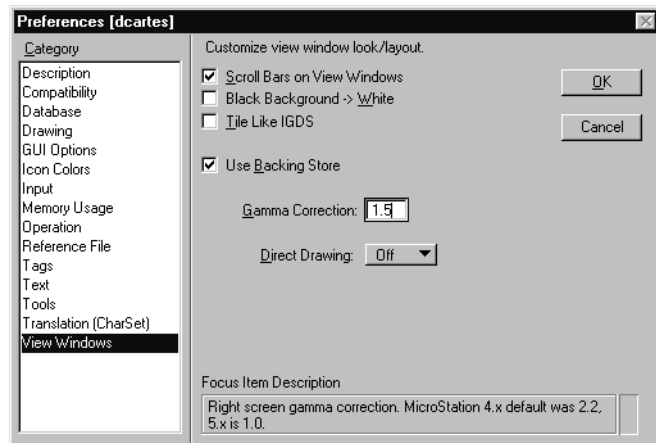
You will notice an increase of brightness for the image.

In addition to natural lighting, it is also possible to adjust the gamma correction setting. MicroStation SE describes this setting as follows:

“Affects the brightness of rendered images on the Right/primary (and, if present, a Left/secondary) screen. Gamma correction compensates for the spectral characteristics of the display (or printer). The default value of 1.0 is close to ideal for most monitors. The valid range is 0.1 to 3.0. Increasing the Gamma Correction setting has the effect of lightening images; decreasing it darkens images. A change in this preference is effective the next time a view is updated.”

► Increasing the Gamma Correction

1. From the Workspace menu, select Preferences.
The Preferences dialog box opens.
2. From the Category list, highlight View Windows.
3. From the right pane, change Gamma Correction to *1.5*.



4. Click OK.
5. Phong Render View **2** by clicking View.

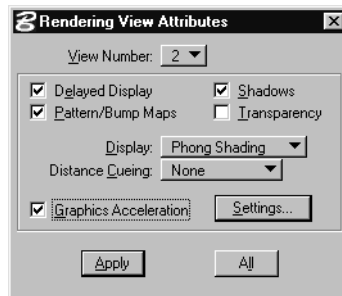
Try different settings to experiment the effects of these settings.

Setting Up For Continuous Draping

Rendered views automatically erase when updated. MicroStation has a setting to instruct specific views to always display rendered views using a target render mode.

► Setting up specific View Attributes

1. From the Settings menu, select Rendering > View Attributes. The View Attributes dialog box opens.
2. Set View Number to **2**. This displays the view attributes for View **2**.
3. Set Display to Phong Shading and Distance Cueing to None.



4. Click Apply. View **2** will be updated and Phong Rendered.

Each time View **2** is updated, all rendered objects will be Phong Rendered.

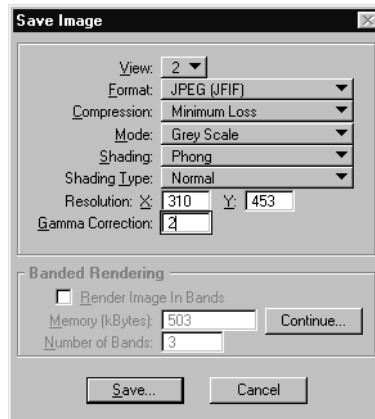
Saving Draped Views

Once the image has been successfully draped on the 3D model, it is useful to save the Rendered View. The saved view can be:

- Distributed for others to visualize it
- Plotted
- Opened at a later time for references on the Shading, Lighting or any other aspect of rendering that can be optimized before the final draping

► To save a draped view

1. From the Utilities menu, select Image > Save.
The Save Image dialog box opens.
2. Set the parameters as follows:



3. Click Save.
The Save Image As dialog box opens with the following parameters:
File Name: DTM.JPG
Output directory: ... \out\image\
4. Save the file in the *mse\out\image* directory and name it DTM.JPG.
5. Click OK.
View the saved image using the Display Image dialog box.

► Viewing a saved image

1. From the Utilities menu, select Image > Display.
The Display Image dialog box opens and should already be pointing at the image you have just saved, DTM.JPG
 2. Highlight DTM.JPG and click OK.
The Display Image dialog box loads and displays the image. Several features are available through the pull-down menus.
 3. Close the Display Image dialog box.
- ☞ Complete this tutorial by trying Walk Throughs, Fly Throughs, and Animations. These features are all compatible with Image Draping.