

Making Masks

by Dennis Wilkins

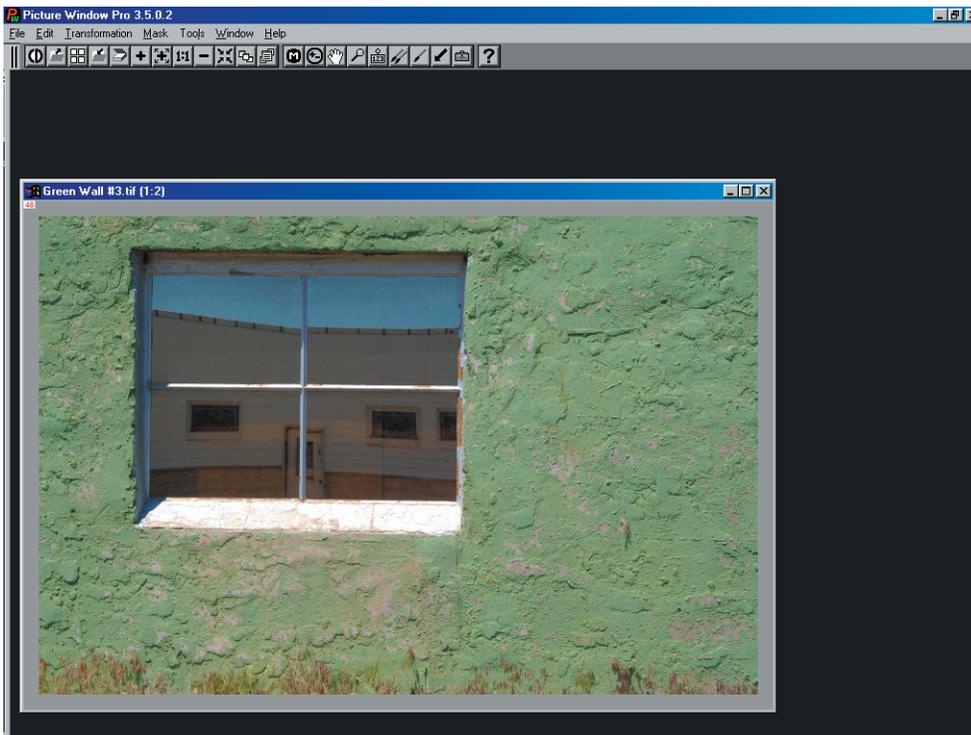
Picture Window and Picture Window Pro have many tools and image transforming functions to handle any photographic editing requirement. In addition to functions that modify an entire image, Picture Window Pro can provide selective image editing by using masks. This article will present several images that were improved significantly using selective control of tones and selective combination of separate images.

Masks are the key to enhancing images precisely. What is a mask? In Picture Window Pro a mask is any 8-bit B&W image that is exactly the same size as the photographic image you are editing. The image being edited can be color or B&W, 24 bit color or 48 bit color, but the mask must be an 8-bit B&W image. A mask enables most image modifying tools in Picture Window Pro to be applied to specific areas, rather than to an entire image. In addition, even more useful, a mask enables the effects of an image modification to be applied gradually over an area, rather than just “applied or not applied”. This capability makes Picture Window Pro masks very powerful.

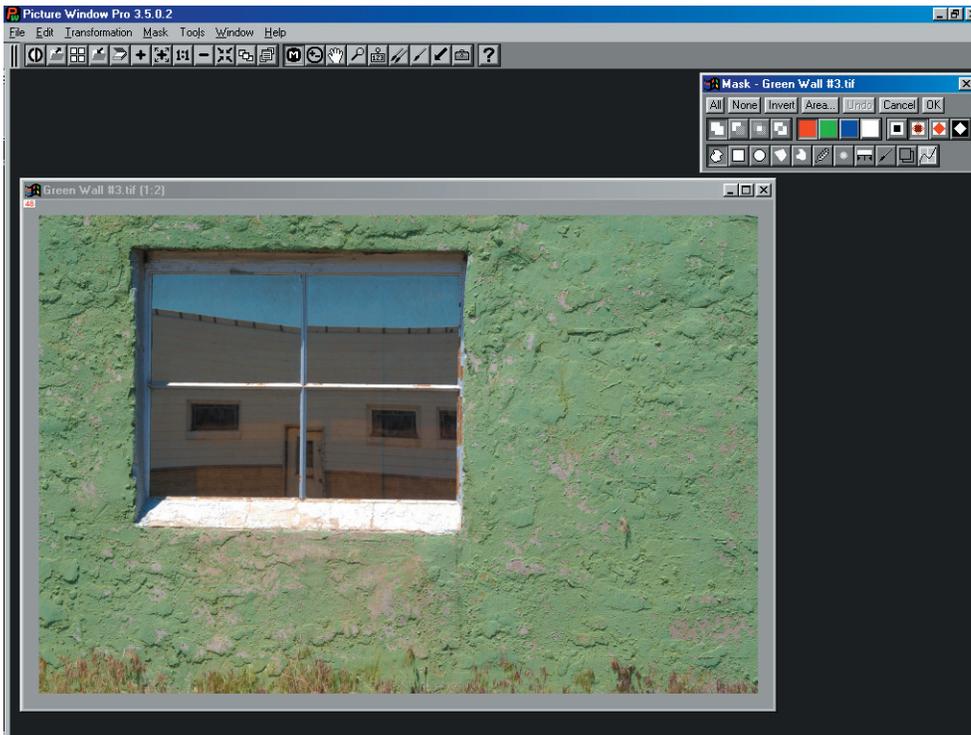
There are two basic “kinds” of masks, and several ways to create a mask. The two kinds of masks are simple “on or off” masks (B&W images that are only black or white) and continuous tone masks (B&W images with a variation of gray tones between black and white). How you go about making a mask depends on what you plan to do with the mask.

A basic “on or off” mask is used to cause an effect to be applied in one area and not in others, and with many Picture Window Pro tools, can be used to cause an effect to be applied at one intensity in some areas and at a different intensity in others. Continuous tone masks enable the intensity of an effect to be applied variably over an area based on the density of the mask. This enables some powerful effects to be created.

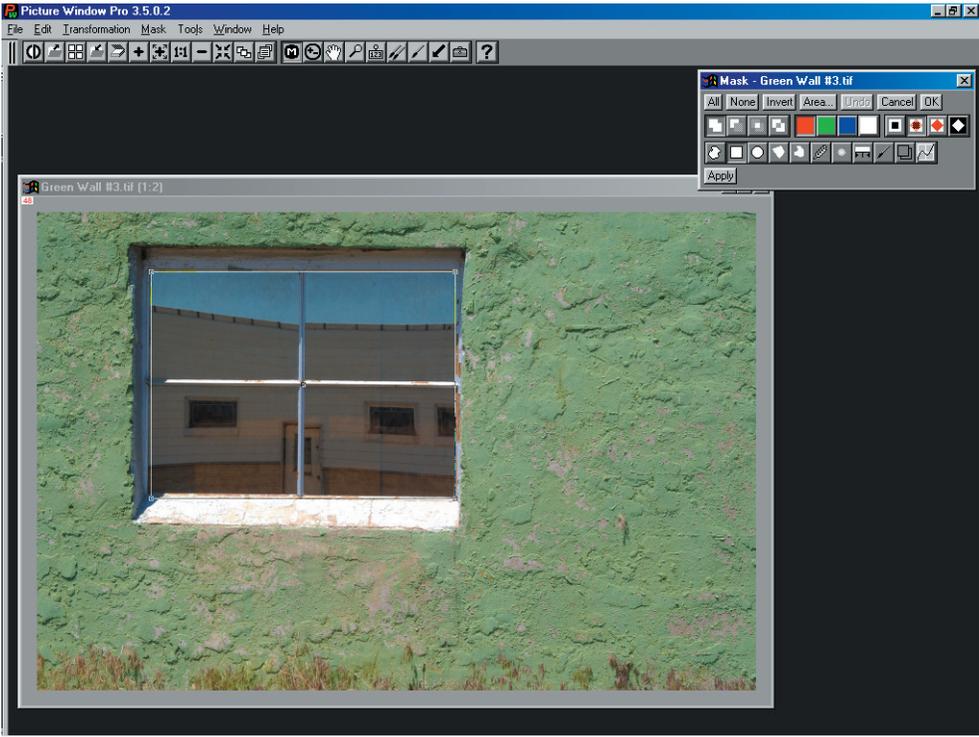
We will look at how masks are used after we look at making masks. We’ll start with basic black or white masks (“on or off”). To make an “on or off” mask, you need to start with the image you are going to edit . . .



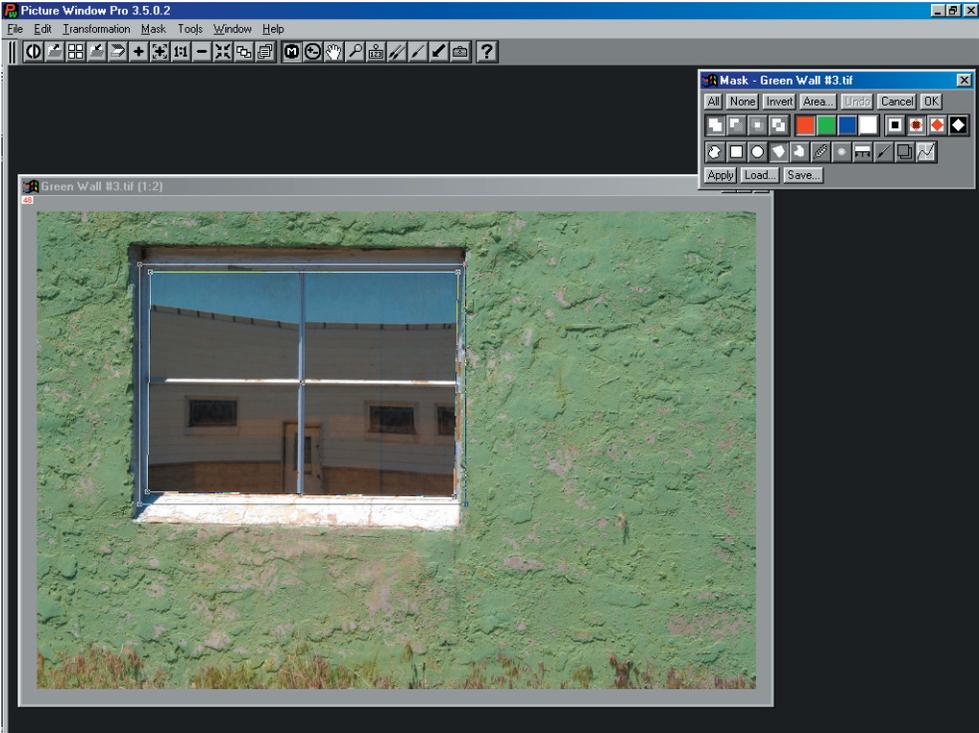
This image is a window in an old building with a reflected scene. If I want to edit the properties of the reflection only and not the green stucco wall, I will need to “mask” the window. Likewise, the same mask could be used to edit image properties of the wall and not affect the window scene. Clicking the Mask menu item while this image is selected opens a Mask window with the same name, seen in the upper right of the desktop view below . . .



The mask window starts with a “Freehand Outline” tool button selected (lower right corner of the mask window) and with the button directly above it also selected (Add). This tool lets you draw any shape you want, and having the Add button selected lets you add increasingly more areas to a mask gradually, rather than have to create a mask in a single try. In this case, however, I think a rectangle is what I need, and the next button to the right of “Freehand Outline” is a Rectangle tool. Clicking this, I can draw a precise rectangle on the image. This tool is like most drawing tools and has “handles” at each corner of the rectangle to adjust their positions. You can also place the cursor on any of the four sides of the rectangle and move just that side without upsetting the other three. The desktop image below shows the Rectangle tool selected, and a rectangle drawn in with its edges matching the window as best as possible . . .

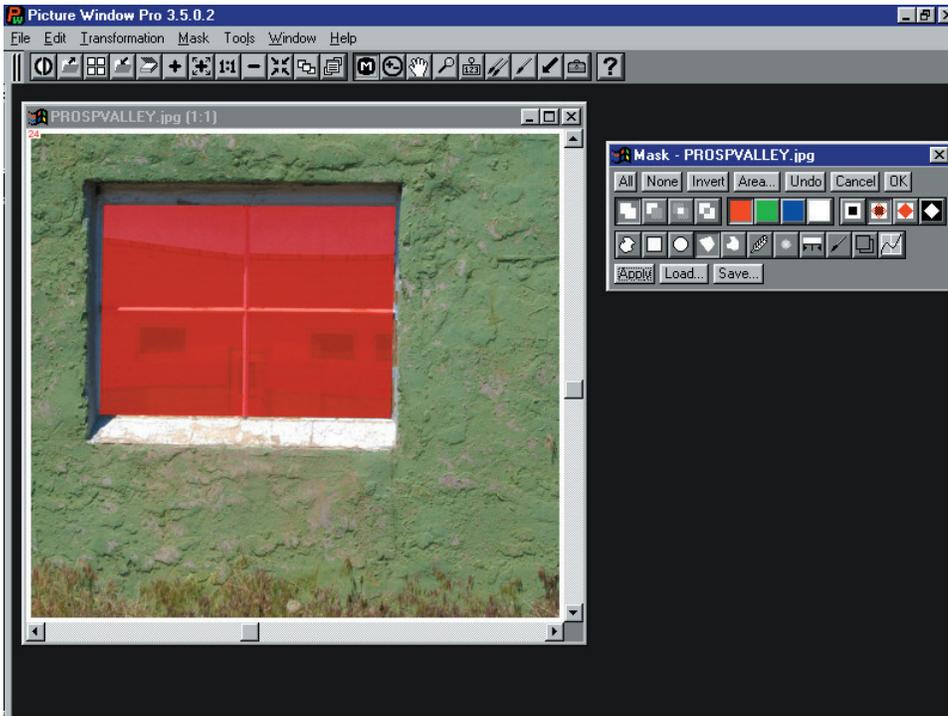


Looking at the first stage of creating a rectangular mask above, you can see that the glass area of the window is not an exact rectangle, the right side is angled in at the bottom, the left side angled in at the top, and the bottom edge slopes down on the right. There are several ways to approach this, but the most direct might be to use a tool that can provide a polygon shape, the Polygon tool, fourth button from the left on the mask toolbar:

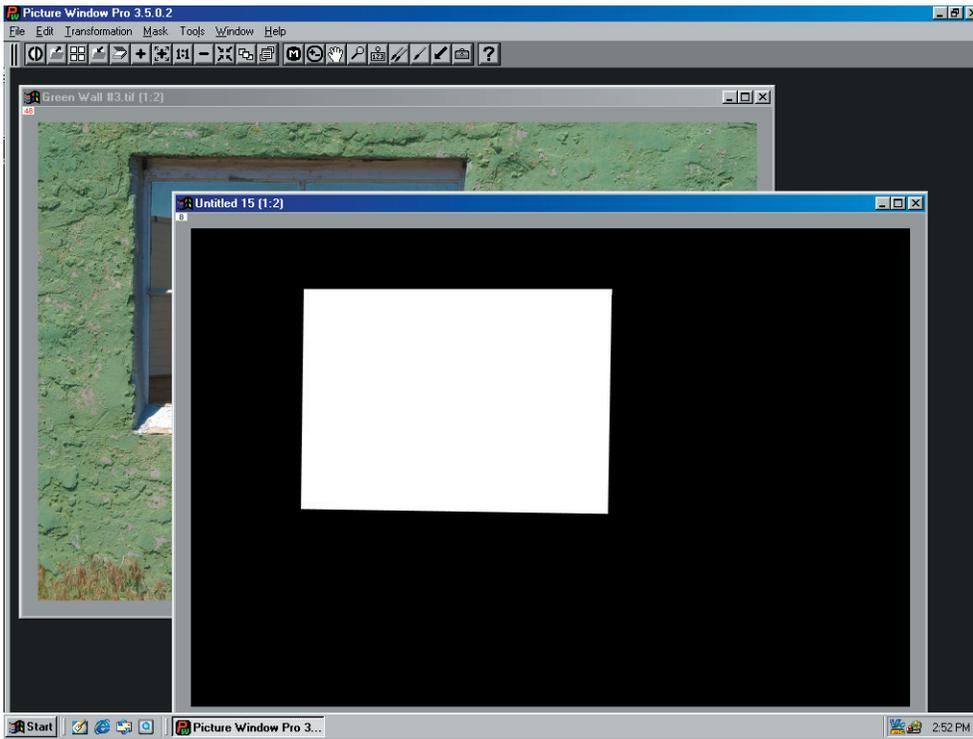


The Polygon tool allows you to move any corner any way you want, and add corners by Shift-clicking on a line (and delete corners by Ctrl-clicking a node). Note there are two sets of handles with this tool – the inner handles directly move the mask corners, varying the length of the two sides as needed while the outer handles shift the mask maintaining the relative lengths of the two sides nearest the handle. There is also a center handle that shifts the whole mask without changing its shape.

In this image, the nonrectangular shape is slight, but more extreme geometries with straight edges can easily be fit with this tool. When the polygon (or whichever geometrical tool-shape you've used) fits the way you want, click the **Apply** button in the lower left corner to make a mask . . .

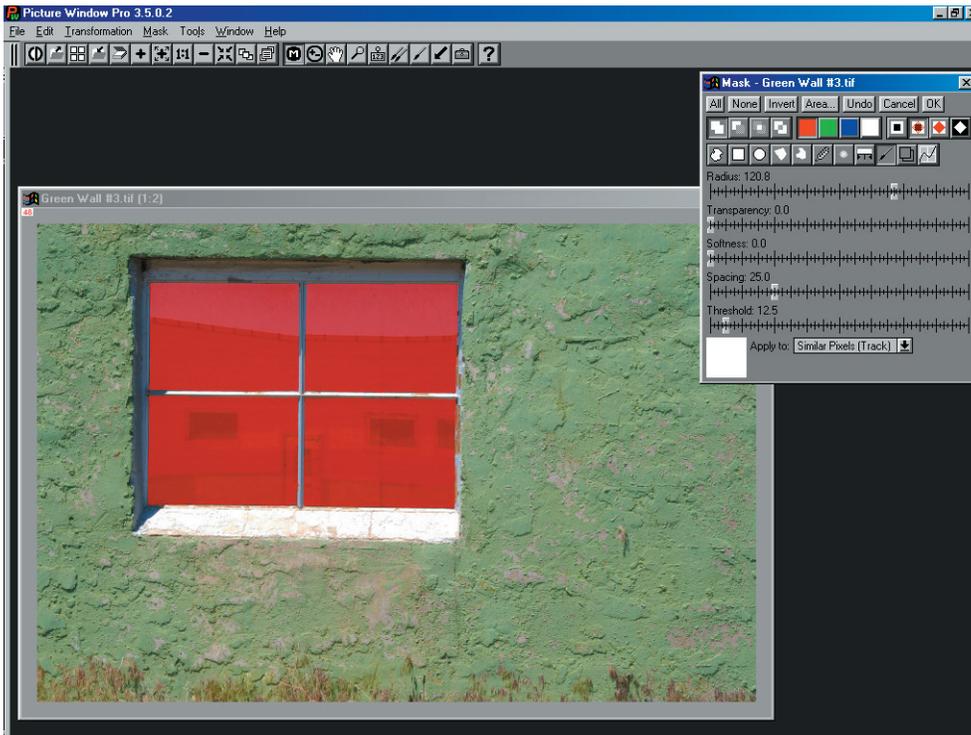


Note the mask can be shown as a transparent or solid color over the image (red, green, blue or white), turned off, or only the mask can be shown in B&W (using the appropriate two buttons on the right side of the Mask window, directly below the **Area** and **Undo** buttons). You can “undo” the last mask step and add additional sections using any of the mask tools until the mask is complete. When the mask is ready, clicking the **OK** button at the upper right of the mask window will create a new image window with only the mask. This can be saved as a file, or used temporarily with its associated image file. In addition, you can directly use the mask above with various Picture Window Pro tools and functions, but saving it first is a good idea in case you want to make different modifications to the same image in the future . . .

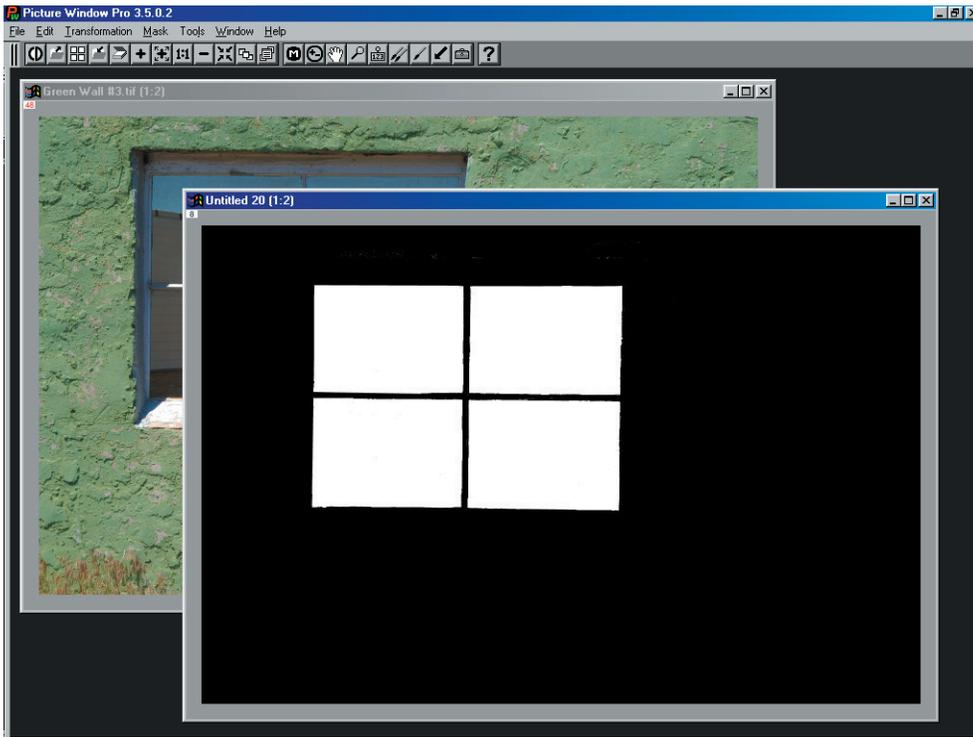


There are also oval and spline tools to better fit other shapes. And there are more ways to make a mask. The mask toolbox has a Color Range capability that will mask all the areas of an image that fall in a set range of colors. And this capability can be combined with a Paint tool to provide very precise control of a mask exactly where you need it. The paint tool is able to paint over any area, or paint only areas falling within a selected color range, or paint areas falling within a set range of the center of the paint tool's brush.

So another way to make a mask for this image is to use the Paint tool – this method allows you to mask only the glass areas and leave the wood frame and crosspieces alone . . .



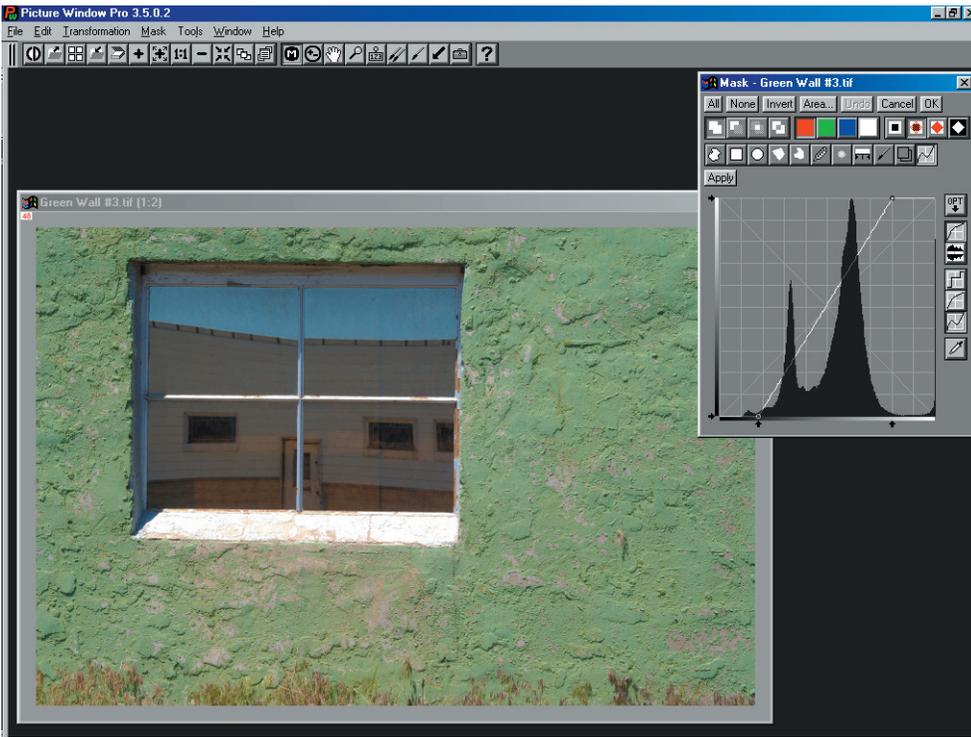
In this case, I painted only the window panes, leaving the wood crosspieces unmasked. Actually, I also used the **Invert** button (third from left of the top row of Mask controls) and a smaller Threshold setting to clean up the crosspieces in the window. Note that when using the Paint tool the mask color appears immediately . . . you don't need to click an "**Apply**" button (in fact, there is no Apply button, but a larger window appears with Radius, Transparency, Softness, Tracking and Threshold controls). And to really get a precise mask, you can switch between the Paint tool and any of the geometric drawing tools as much as you like, even changing the **Add** button to a **Subtract** button if you need to trim away mask areas. When the mask is the way you want it you need to click **OK** to create the mask image window (or, as mentioned above, you can directly use the mask just created . . . but it's wise to save your masks until you are sure you don't need them again).



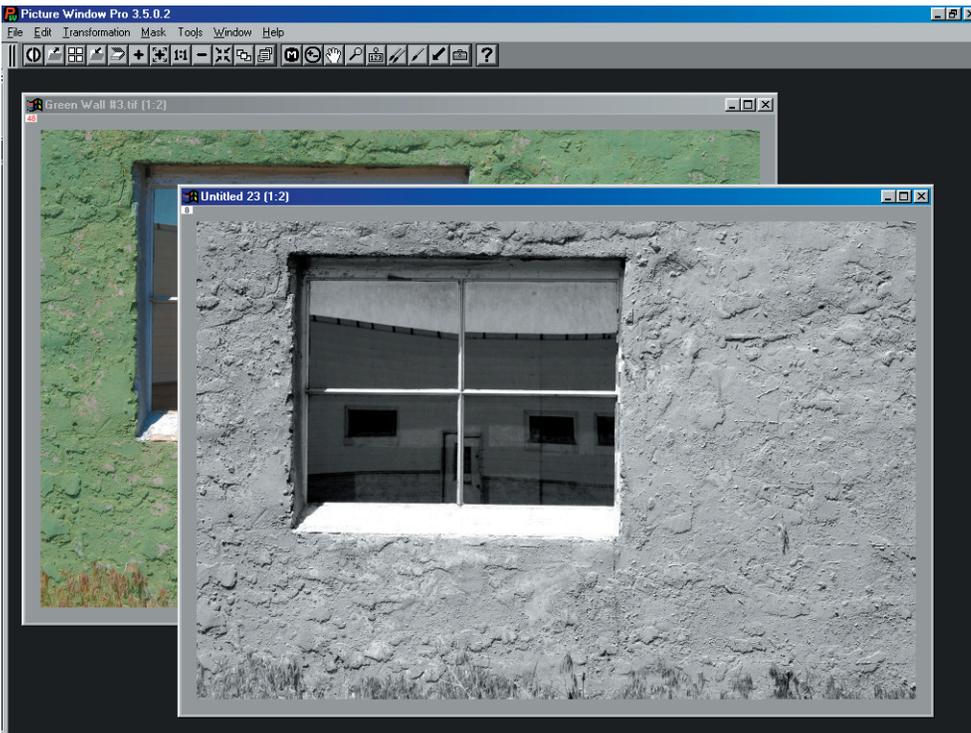
When you save a mask, since it must be an 8-bit B&W file, it's fine to use a high quality jpeg file even when your original image is a TIF file – this will save storage space.

These tools have created “black or white” masks that will apply sharply different effects in the areas that are black from those that are white. In some cases, you may want a soft or blurry mask to smoothly introduce an image modification. The mask toolbox includes a blurring function you can apply after creating a basic mask, and a feather tool to make a mask expand or contract for better coverage of some images.

In other cases, you may want a mask to continuously vary an effect over an image where the variation is precisely related to the original image. This can be used for special tonal and color controls. Picture Window Pro includes a Brightness Curve tool that creates a continuous tone mask based on the tones of the image and tonal settings of a “histogram” tool . .



This approach creates a continuous tone B&W image with the contrast controlled by the settings in the histogram shown on the right (we will look at histograms later).



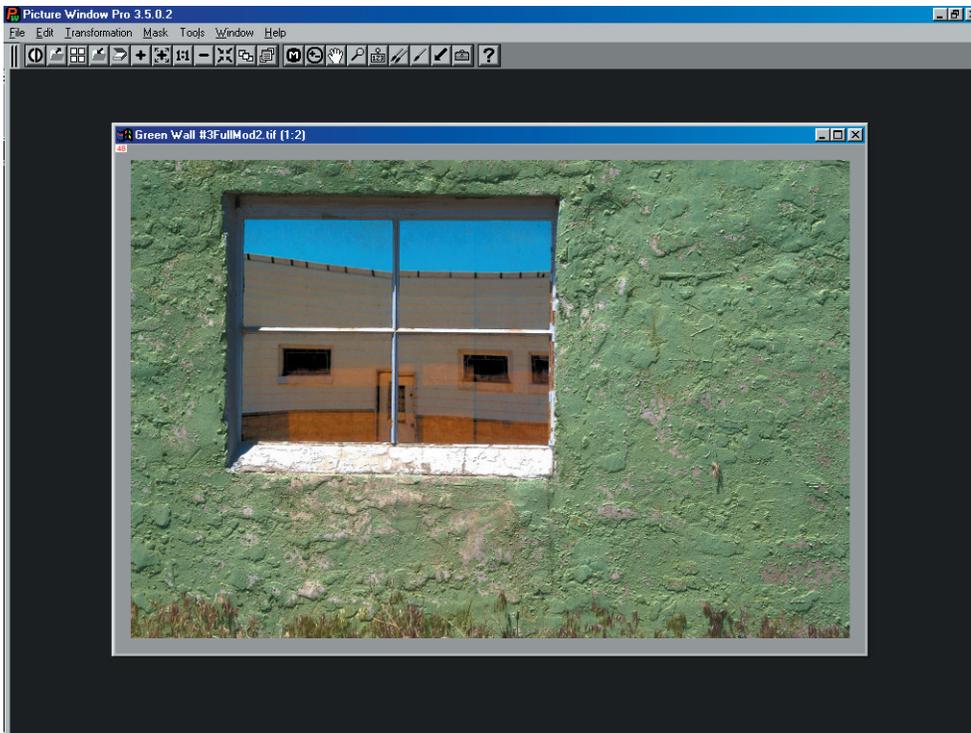
Such a mask would not be used to simply isolate the window reflections from the wall, but might be used to enhance contrast or colors in ways that simple adjustments could not. Whenever a mask is created using the Mask tools, clicking **OK** produces the new mask image in its own window. As mentioned earlier, to save file space, the mask can safely be saved as a high quality jpeg that will be only a small fraction the size of its associated image file.

The mask toolbox is not the only way to make an image-derived mask! Any method that creates an 8-bit B&W image can make a mask. One method is using the Convert Tool to convert an image from color to 8-bit B&W. There is a monochrome function in the Color tools that enables converting a color image to a B&W image through a color filter which allows you to make a mask isolating certain colors. And the Special Effects menu has a High Contrast tool that can make a sharp outline of subtle tone differences.

And there are even more ways to make a mask! Sometimes you need an effect that is not precisely related to the original image. For example, if you have a picture with one corner that is considerably darker than the rest of the image, you may want to lighten that corner. You can use a Picture Window Pro function called the Gradient to create a mask that will smoothly lighten the corner when used with a brightness transformation. You can also use a gradient mask to blend in a “bluer” sky in a picture where the original sky washed out. You can use an oval gradient mask to create a “vignette” effect like an old time photo. And there are many other things you can accomplish with gradient masks.

With Picture Window Pro, there are many ways to create a mask and many things you can do with a mask; you need to determine the purpose of the mask and choose an appropriate method to create it.

So, once you have a mask, how are you going to use it? For the image we just used to make three different masks, I used a combination of the continuous tone mask made last (Brightness Curve tool) with the previous mask (mask of only the window reflection made with the Paint tool) to enhance the tones into the following image . . .



In this application, a Gray transformation Brightness Curve was applied through the continuous tone mask on the green wall – the saturation of the wall was not changed, only the contrast. Then I increased the color saturation of the reflected image in the window using the second mask we made. The result is a more dramatic view of this scene.