How to use selection tools

When using Adobe Photoshop CS6, you will frequently need to select only parts of an image. Then you can make changes only to those parts. You can also cut and paste a selection to a new background. Practice using the selection tools. They can be tricky, but learning them is well worth the effort. The better you are at using them, the more flexibility you have with changing parts of images.

This guide covers the basics of using three different types of selection tools:

- *Quick Selection and Magic Wand tools:* Select parts of an image that have similar colors.
- *Marquee tools:* Select a geometrically shaped area, such as a rectangle or circle.
- *Lasso tools:* Define a selection area by hand.

After you make your selection, you can place the selection on a new layer mask. You can use masks to hide portions of a layer and reveal portions of the layers below. Two types of masks are available: layer and vector. *Layer masks* are resolution-dependent bitmap images you can edit with the painting or selection tools in our list. *Vector masks* are resolution independent; you can create them with a pen or shape tool. This guide looks at creating a vector mask by using a shape tool.

About the Quick Selection and Magic Wand tools

You can use two similar yet related selection tools to select parts of an image: the Quick Selection tool and the Magic Wand tool (**Figure 1**).

You can use the Quick Selection tool to quickly “paint” a selection using an adjustable round brush tip. As you drag, the selection expands outward and automatically finds and follows defined edges in the image.

You can use the Magic Wand tool to select an area of consistent color (for example, a sky background) without having to trace its outline.You specify the color range, or tolerance, for the Magic Wand tool’s selection, based on similarity to the pixel color you click.

Figure 1 Selection tools

To use the Magic Wand tool:

1. Click the Magic Wand tool in the Tools panel.

   The pointer changes to a magic wand.

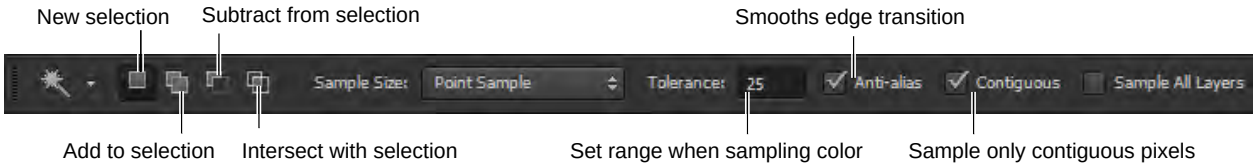

Figure 2 Selection options

2. Specify one of the selection options in the options bar. The pointer changes, depending on which option you select (**Figure 2**).
3. In the options bar, specify any of the following options:

   Tolerance determines the similarity or difference of the pixels selected. Enter a value in pixels, ranging from 0 to 255. A low value selects the few colors very similar to the pixel you click. A higher value selects a broader range of colors.

   Anti-aliased creates a smooth-edged selection.

   Contiguous selects only adjacent areas that use the same colors. Otherwise, all pixels in the entire image that use the same colors are selected.

   In the example illustrated in **Figure 2**, the Add To button is selected, the Sample Size is set to Point Sample, the tolerance is set to 32, and the Anti-alias and Contiguous options are selected.
4. In the image, click the color you want to select (**Figure 3**).

   Figure 3 illustrates what happens when the background of the landscape image is clicked with the settings shown in **Figure 2**.

   Note: After your initial click, the pointer changes to a magic wand with a plus (+) symbol. This indicates that more clicks will add to the selected area. Continue clicking until you have selected the entire area.
5. After you select the entire area, you can make changes to it, such as creating a Color Balance adjustment layer to alter the sky background color (choose Window > Adjustments, and then click the Color Balance button) (**Figure 4**).

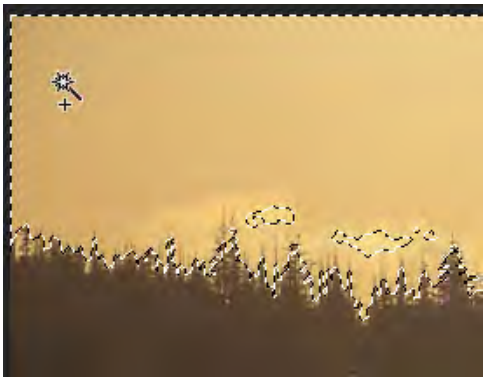

Figure 3 Using the Magic Wand tool

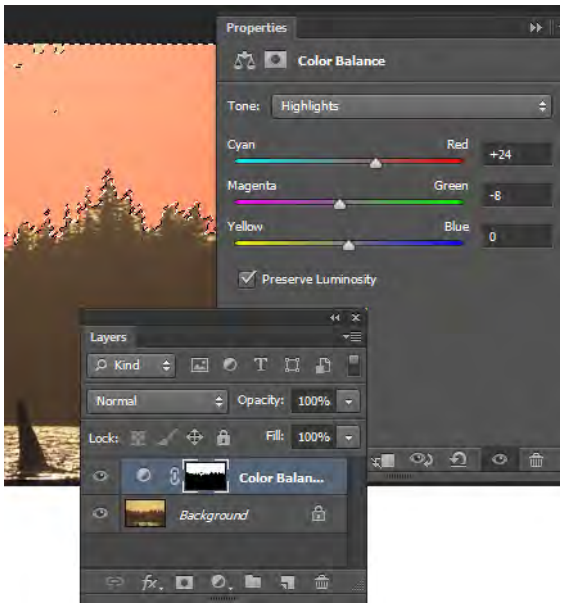

Figure 4 Color Balance Adjustment layer applied to selection

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Using the marquee tools

The marquee tools enable you to select rectangles, ellipses, and 1-pixel rows and columns (**Figure 5**).

- *Rectangular Marquee:* Makes a rectangular selection (or a square, when used with the Shift key).
- *Elliptical Marquee:* Makes an elliptical selection (or a circle, when used with the Shift key).
- *Single Row or Single Column Marquee:* Defines the border as a 1-pixel-wide row or column.

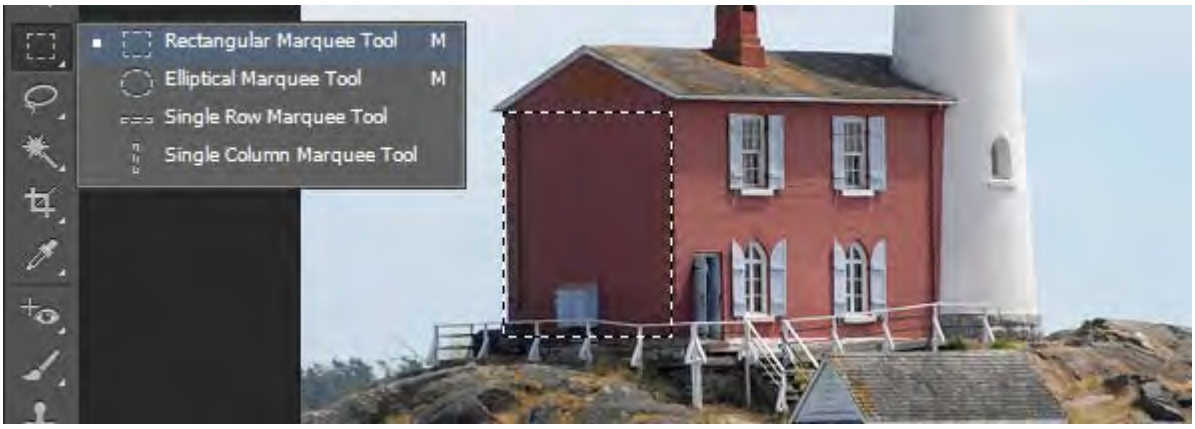

Figure 5 Marquee tools with Rectangular Marquee tool selected

To use the Rectangular Marquee tool:

1. Click the Rectangular Marquee tool in the Tools panel.

   The pointer changes to a cross.

2. Drag the pointer across the area you wish to select (**Figure 6**).

3. When you have completed your selection, release the mouse.

   The area remains selected.

   Note: To adjust the location of the selection slightly, press the arrow keys.

   Any changes you make now apply only to the selection. For example, you can alter the lightness of the selected area (choose Window > Adjustments, and then click the Brightness/Contrast button) by adjusting the sliders (**Figure 7**).

Figure 6 Rectangular selection

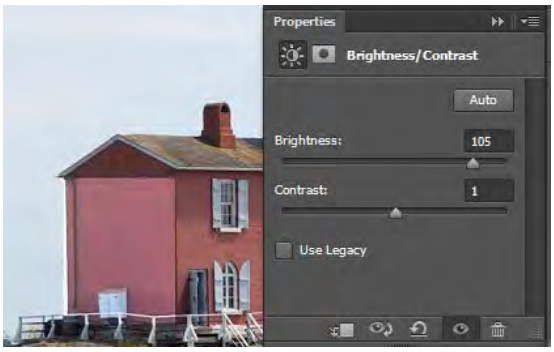

Figure 7 Photo Filter applied to selection

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Smoothing the edges of selections

Often you can improve results by softening the edges of selections, especially if you plan to copy them to a new background. You can use two options to smooth edges: feathering and anti-aliasing. Both options are available through the options bar when you choose selection tools (**Figure 8**).

Figure 8 Elliptical Marquee tool options bar

- Anti-aliasing smoothes the edges of a selection by softening the color transition between edge pixels and background pixels. Because only the edge pixels change, no detail is lost. The effect of anti-aliasing is slight, but it can be effective in many situations. You can apply anti-aliasing to selections made by the Lasso tool, the Polygonal Lasso tool, the Magnetic Lasso tool, the Elliptical Marquee tool, and the Magic Wand tool. (**Note:** You must select anti-aliasing before using the tool. After you make a selection, you cannot add anti-aliasing.)
- *Feathering* blurs a selection's edges by adding a transition boundary between the selection and its surrounding pixels. You can set the width of this boundary in the options bar. In many cases, a boundary of 3–5 pixels is sufficient. (This blurring can cause some loss of detail at the edge of the selection.) The effect of feathering is more dramatic than anti-aliasing, but you may prefer the results when you move objects to a markedly different background. You can define feathering for the Lasso tool, the Polygonal Lasso tool, the Magnetic Lasso tool, and the marquee tools as you use each tool, or you can add feathering to an existing selection. (**Note:** You will not see the effects of feathering until you move, cut, copy, or fill the selection.)

The Refine Edge option improves the quality of selection edges, letting you view the selection against different backgrounds for easy editing. Click the Refine Edge button in the options bar to access the advanced options (**Figure 9**).

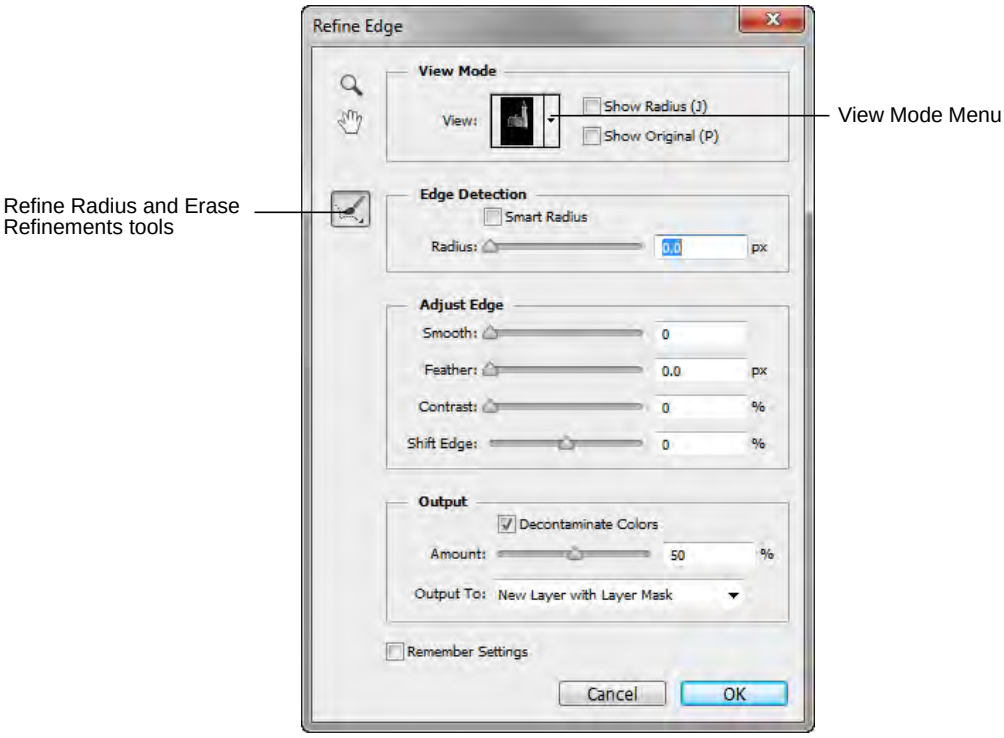

Figure 9 Refine Edge dialog box

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The options available from the Refine Edge dialog box include:

- *View Mode:* From the pop-up menu, choose a mode to change how the selection is displayed. Show Original displays the image without a selection preview. Show Radius displays the selection border where edge refinement occurs.
- *Refine Radius and Erase Refinements tools:* Let you precisely adjust the border area in which edge refinement occurs.
- *Smart Radius:* Automatically adjusts the radius for hard and soft edges found in the border region.
- *Radius:* Determines the size of the selection border in which edge refinement occurs. Increase the radius to create a more exact selection boundary in areas with soft transitions or fine detail. The ideal radius depends upon selection size and content, so experiment with different settings.
- *Smooth:* Reduces irregular areas ("hills and valleys") in the selection border to create a smoother outline.
- *Feather:* Create a soft-edged transition.
- *Contrast:* Sharpen selection edges and remove fuzziness. Typically, however, the Smart Radius option and refinement tools are more effective.
- *Shift Edge:* Shrink or enlarge the selection boundary. Enter a positive value to expand or a negative value to contract. Most useful for making subtle adjustments to soft-edged selections. Shrinking the selection can help remove unwanted background colors from selection edges.
- *Decontaminate Colors:* Replaces color fringes with the color of the subject.

  Note: Because this option changes pixel color, it requires output to a new layer or document, preventing unexpected changes to the current layer.
- *Amount*: Changes the level of decontamination and fringe replacement.
- *Output To:* Determines whether the refined selection becomes a selection or mask on the current layer, or produces a new layer or document.

Using the lasso tools

Photoshop has three lasso tools, so named because you can enclose a selection in a flexible shape—just like a rope.

- *Lasso selection tool:* Useful for drawing freeform segments of a selection border. The most difficult selection tool to use but the most precise.
- *Polygonal Lasso tool:* Slightly easier to use, enabling you to select areas by using straight lines and selection points.
- *Magnetic Lasso tool:* Automatically snaps to the borders of defined areas in the image. Best used with objects that contrast sharply with their background.

This guide explains how to use the Polygonal Lasso tool. Using the Lasso tool is similar, but the selection is entirely freehand. Experiment with all three lassos after you are comfortable with the Polygonal Lasso.

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To use the Polygonal Lasso tool to create a cutout image on a new background:

1. Click and hold the Lasso in the Tools panel, and select the Polygonal Lasso tool from the menu (**Figure 10**).

   The pointer changes to a polygon.

   Note: Once you select the Polygonal Lasso, it appears by default in the menu until you select a different lasso tool.

2. In the options bar, make sure Add To Selection is selected and set Feather to 3 px (**Figure 11**).

   When you increase Feather slightly, you ensure that the edges of the selection will be soft and the object will blend well into a new background.

3. Click the border of the object you wish to select.

   It may help to increase the object's magnification.

4. Next, move the pointer a short distance away along the object's border and click again.

   As you do so, you form a connected segment with endpoints.

5. Continue creating small segments until you enclose the entire object.

   When you move the pointer over your original starting point, a closed circle appears next to the Polygon lasso pointer (**Figure 12**).

6. Click to close the selection.

7. Click the Refine Edge button in the options bar.

   The Refine Edge dialog box opens (**Figure 9**).

8. Select a View Mode option (**Figure 13**) so that the edges of the selection are easy to isolate against the background.

   For example, a dark background will be more useful for defining the edges of the lighthouse illustrated in the example.

   Note: For information about each mode, hover the pointer over it until a tool tip appears. Press **F** to cycle through the View Mode options, or press **X** to temporarily disable all views.

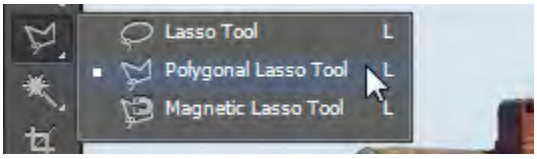

Figure 10 Lasso tools in the Tools panel

Figure 11 Polygonal Lasso options

Figure 12 Click to create selection segments until the loop is closed

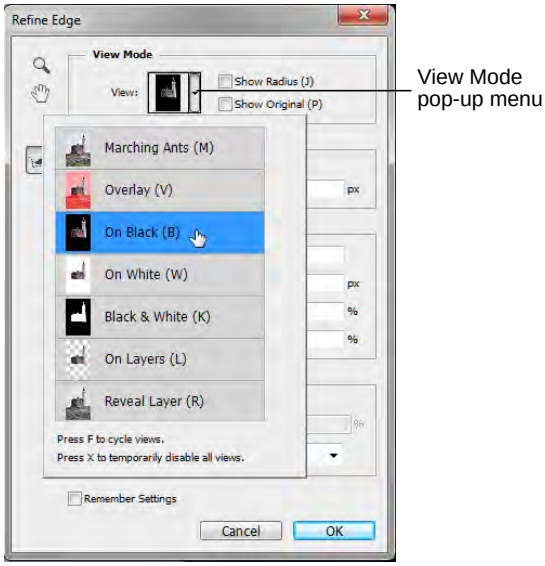

Figure 13 View Mode options

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9. In the Edge Detection area, select the Smart Radius option.
10. Adjust the Radius slider to change the size of the refinement area and soften the edges of the border region..

    Observe the results of the edge refinement (**Figure 14**).

    Occasionally you may have to fine-tune an edge selection beyond using the Smart Radius. To do this, use the Refine Radius tool.
11. Click the Refine Radius and Erase Refinements tools button and select the Refine Radius tool (**Figure 15**).

    The pointer changes to a circle brush with cross hair.
12. Drag along the edge to refine the edge selection (**Figure 16**).

    Observe the results of the edge refinement (**Figure 17**).

    Note: To change the brush size, press the bracket keys, or use the Size slider in the Control panel .
13. In the Output area, select the Decontaminate Colors option and set the Output To option to New Layer With Layer Mask.
14. Click OK.

    The selection is placed on its own masked layer (**Figure 18**).
15. Click on the square beside the original layer (the background layer) to activate the eyeball icon and make the layer visible.
16. If the image layer is the background layer, double-click the image layer in the Layers panel to convert it from a background layer into a regular layer.
17. Click OK in the New Layer dialog box.
18. Click the Background layer itself to select it.
19. Choose Select > All.
20. Press Delete to remove the original background.
21. With the background layer still selected, click the Paint Bucket tool.
22. Click the Set Foreground button in the Tools panel and choose a color to lay down behind the selection.

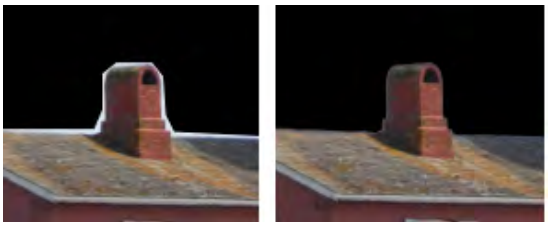

Figure 14 Edge radius adjustment, before and after

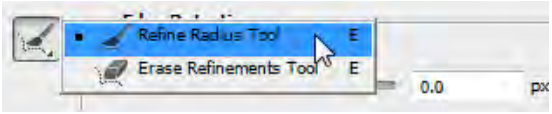

Figure 15 Refine Radius and Erase Refinements Tools

Figure 16 Refine Radius tool

Figure 17 Refine Radius Tool results

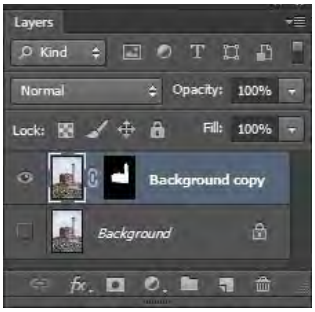

Figure 18 New layer with layer mask

23. Click in the background layer to add a new background color (**Figure 19**).

Observe that the object's layers blend into the background. This is because of the refined radius you added to the selection.

Figure 19 Object with a new background

About vector mask layers

In the previous section, you used a polygonal lasso to select an area of an image so you could paste it into a new layer. You can also use a vector mask to create a cutout image. A vector mask creates a sharp-edged shape on a layer and is useful any time you want to add a design element with clean, defined edges. After you create a layer with a vector mask, you can apply one or more layer styles to it.

Vector masks are resolution independent and are created with a pen or shape tool. Vector masks are nondestructive, which means you can re-edit the masks later without losing the pixels they hide. In the Layers panel, a vector mask appears as an additional thumbnail to the right of the layer thumbnail. The vector mask thumbnail represents a path that clips out the contents of the layer.

The Properties panel with Masks (**Figure 20**) provides controls to adjust a mask. You can change the opacity of a mask to let more or less of the content show, invert the mask, or refine the mask borders, as with a selection area.

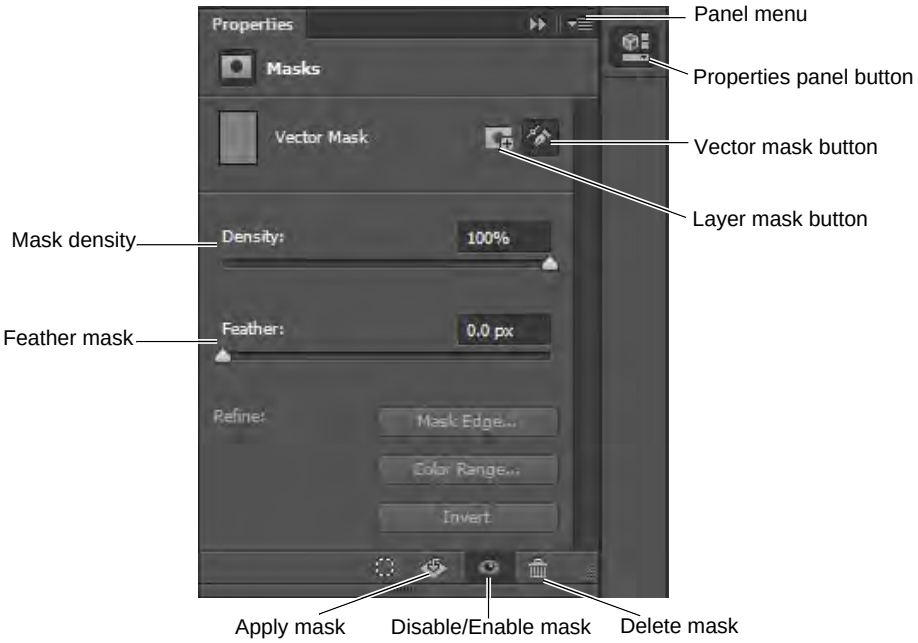

Figure 20 Properties panel

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To create a vector mask layer:

1. Open the image file to which you want to add a vector mask layer.
2. Click the Layers tab to bring the Layers panel to the front or, if the panel isn't visible, choose Window > Layers.
3. If the image layer is the background layer, double-click the image layer in the Layers panel to convert it from a background layer into a regular layer (**Figure 21**). If the image is already a regular layer, skip ahead to step 5.

   Note: Because background layers are locked, you can't move them in the Layers panel. You need to convert background layers to regular layers to unlock them.

   The New Layer dialog box appears (**Figure 22**).
4. In the New Layer dialog box, you can rename the layer. Click OK to close the dialog box and convert the image layer from a background to a regular layer.
5. Confirm the new layer is selected in the Layers panel and choose Layer > Vector Mask > Hide All.

   The layer contents disappear due to the new vector mask that hides the entire layer.
6. Click the Properties panel button to open the Masks options (**Figure 20**).
7. Select one of the shape tools, such as the Ellipse tool (**Figure 24**).

   The pointer appears as a cross hair.
8. Click the vector mask thumbnail in the Layers panel to highlight it.
9. Select the Path option from the Tool Mode menu in the Shape option bar and select the Combine Shapes option in the Path Operations menu (**Figure 24**).
10. Shift-drag the shape tool to draw one or more shapes over the image.

    The vector mask creates sharp-edged shapes on a layer that reveals the parts of the image within the shapes (**Figure 25**).

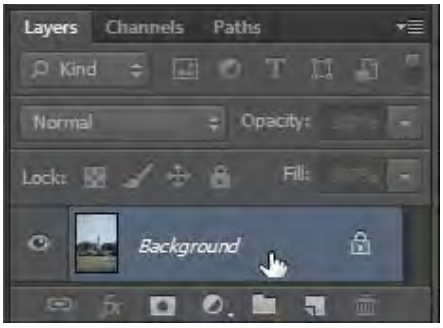

Figure 21 Layers panel

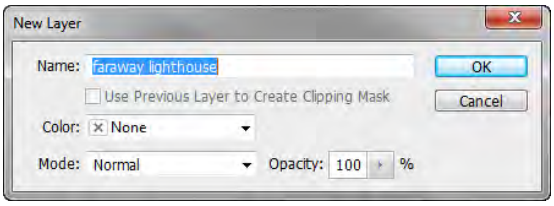

Figure 22 New Layer dialog box

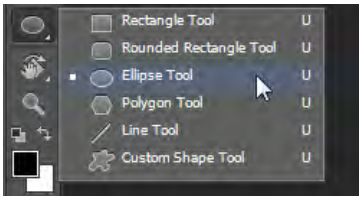

Figure 23 Shape tools in the Tools panel

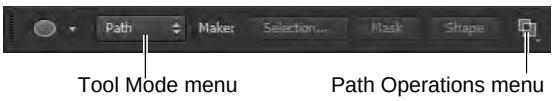

Figure 24 Shape option bar

Figure 25 Parts of the image revealed through combined shapes of vector mask

11. Drag the Density slider in the Properties panel to adjust the mask opacity.

At 100% density, the mask is completely opaque and blocks out any underlying area of the layer. As you lower the density, more of the area under the mask becomes visible. In the example (**Figure 26**), the mask density is set to 30% so that the area under the mask is partially visible.

12. To create a background layer with a solid fill color, click the Layers panel menu (**Figure 27**) and choose New Layer.

The New Layer dialog box appears.

13. Click OK to close the New Layer dialog box and create a new layer.

14. In the Layers panel, drag the new layer below the vector mask layer and confirm that the new layer is selected.

15. Choose Edit > Fill.

The Fill dialog box appears (**Figure 28**).

16. In the Fill dialog box, choose one of the following options for Use, or select a custom pattern:

Foreground Color, Background Color, Black, 50% Gray, or White: Fills the selection with the specified color.

Color: Fills with a color you select from the Color Picker.

Pattern: Fills the selection with a pattern. Click the inverted arrow next to the pattern sample, and select a pattern from the pop-up palette. You can load additional patterns by using the pop-up panel menu. Select the name of a library of patterns, or choose Load Patterns and navigate to the folder containing the patterns you want to use.

History: Restores the selected area to a state or snapshot of the image set as the source in the History panel.

Note: If you fill a CMYK image by using the Black option, Photoshop fills all the channels with 100% black. This may result in more ink than is allowable by the printer. For best results when filling a CMYK image, use the Foreground option with the foreground color set to an appropriate black.

17. Specify the blending mode and opacity for the paint.

18. Select the Preserve Transparency option.

Figure 26 Adjusting the mask density

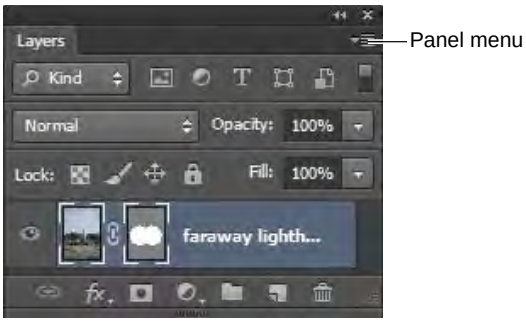

Figure 27 Layers panel

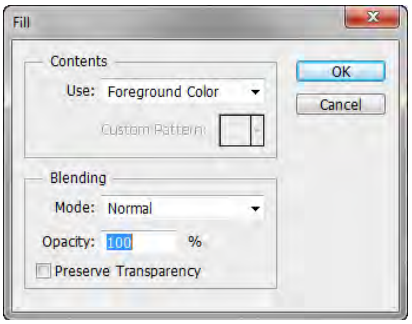

Figure 28 Fill dialog box

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19. Click OK to apply the fill.

20. (Optional) To crop the image, select the Crop tool from the Tools panel.

21. Drag over the part of the image you want to keep to create a marquee. The marquee doesn't have to be precise—you can adjust the cropping marquee as needed.

22. To complete the crop (**Figure 29**), press Enter (Windows) or Return (Mac OS).

Figure 29 Completed image crop