

Section 4—Image Processing

Digital Imaging Workflow for Treatment Documentation

Conservation Division, Preservation Directorate, Library of Congress

IMAGE PROCESSING

Section 4—Image Processing

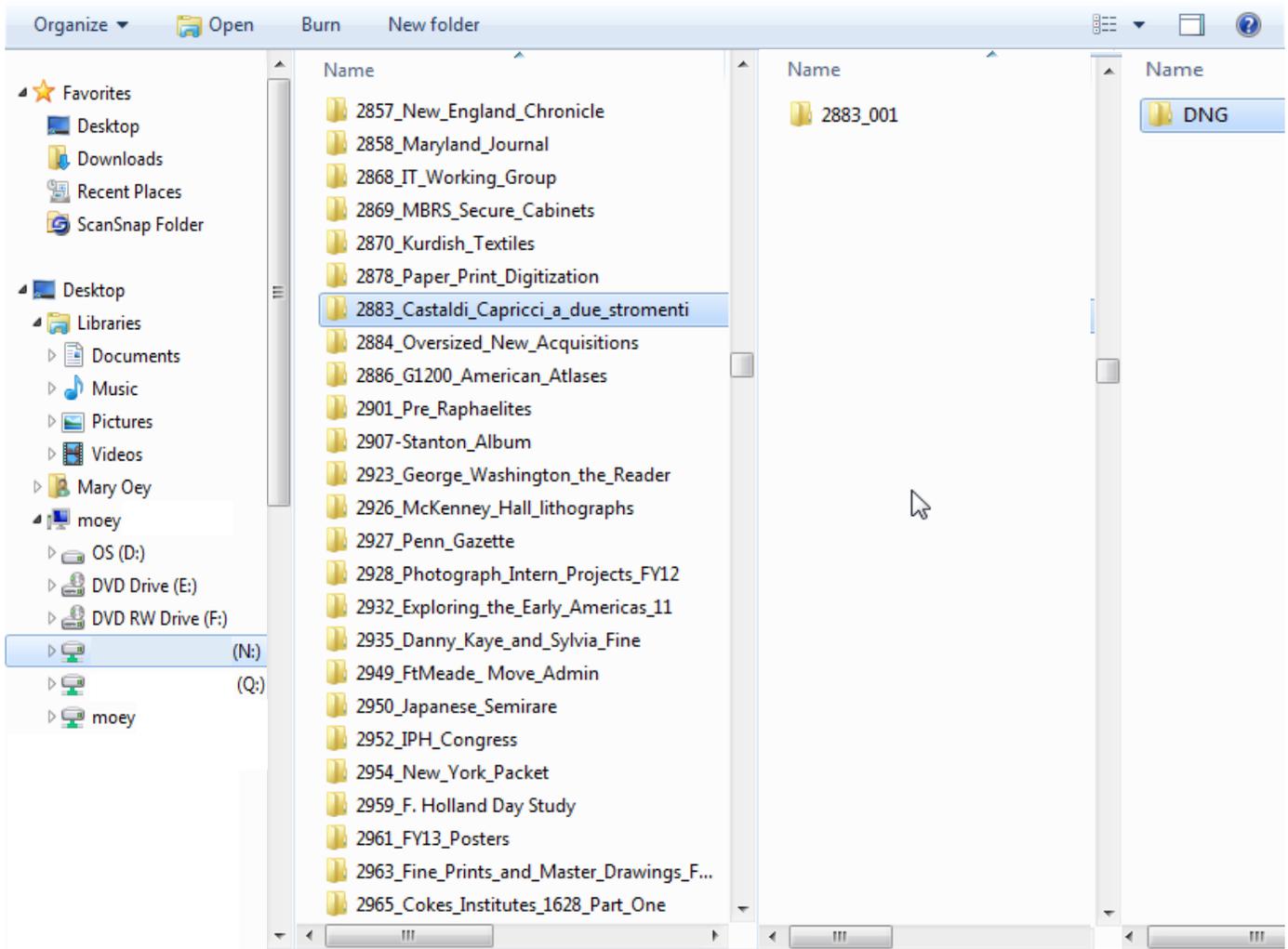


Figure 4.01

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Image Processing Room

Create Project Item Subfolder(s) (Windows)

1. In **Windows**, click through to *N: > PROJECTS > [your project number]*. Your 4-digit project folder should already be on the N: drive. If it isn't, see *Section 2: Capture: Confirm or Request the Project Folder*.
2. Right-click inside [your project number] folder → left click *New* → *Folder*.
3. Name the new folder: [your project number]_[item number]
4. Repeat steps 2-3 to add additional item subfolders as needed.
5. If you don't have the Windows permissions to complete steps 2-4 above, email  and request permissions for your project number folder.

Create DNG Subfolder(s) (Windows)

1. In **Windows**, click through to: *N: > PROJECTS > [your project number] > [your project number]_[item_number]*
2. Right-click inside the folder [your project number]_[item_number] → left click *New* → *Folder*.
3. Name the new folder: DNG
4. Repeat steps 2-3 to create DNG subfolders for each item number.

EXAMPLE: In Figure 4.01, the project folder 2883 has one subfolder, 2883_001, and this subfolder has the newly created DNG folder.

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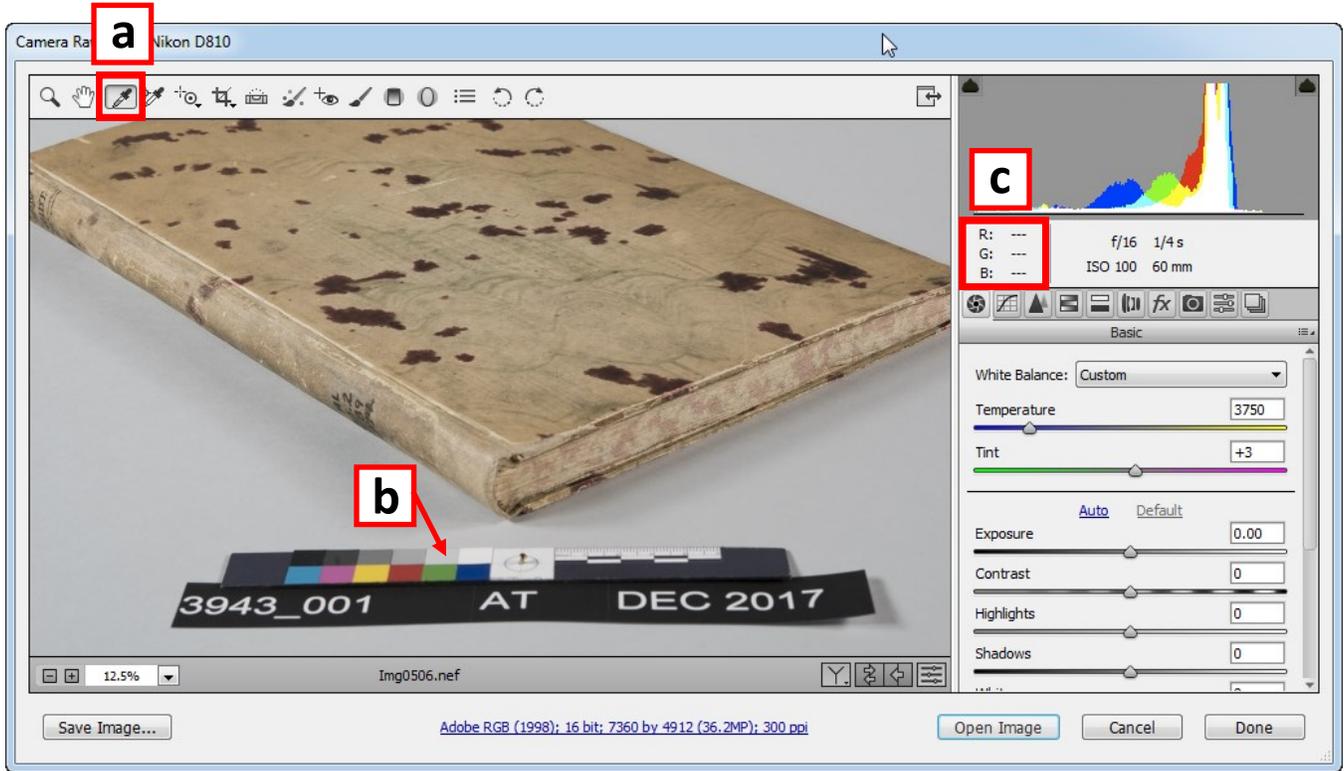


Figure 4.02

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Choose An Image to Process (Bridge)

1. In **Bridge**, click [your username] folder under *FAVORITES*.
2. Double click on the image you want to process. The image will open in **Camera Raw**.

TIP: Batch process any time you have two or more shots taken under the same setup (same camera, lens, lighting distance, camera distance to object, and **Camera Control Pro** settings). In **Bridge**, highlight all images taken under the same setup and double click to open in **Camera Raw**. Use keyboard shortcut Ctrl A to select all images in the filmstrip. White balance, adjust exposure, sharpen, and confirm workflow options (pg. 4.4-4.9) for the first image in the filmstrip then click *Done* to accept changes. Changes will be applied to all images selected. Straightening and cropping (pg. 4.10-4.11) must be done one image at a time.

White Balance (Camera Raw)

1. In **Camera Raw**, click on the *White Balance Tool* (fig. 4.02a). Use the eyedropper to click on the lightest gray patch (fig. 4.02b). Now the R, G, B values under the histogram (fig. 4.02c) should all be equal or nearly equal.

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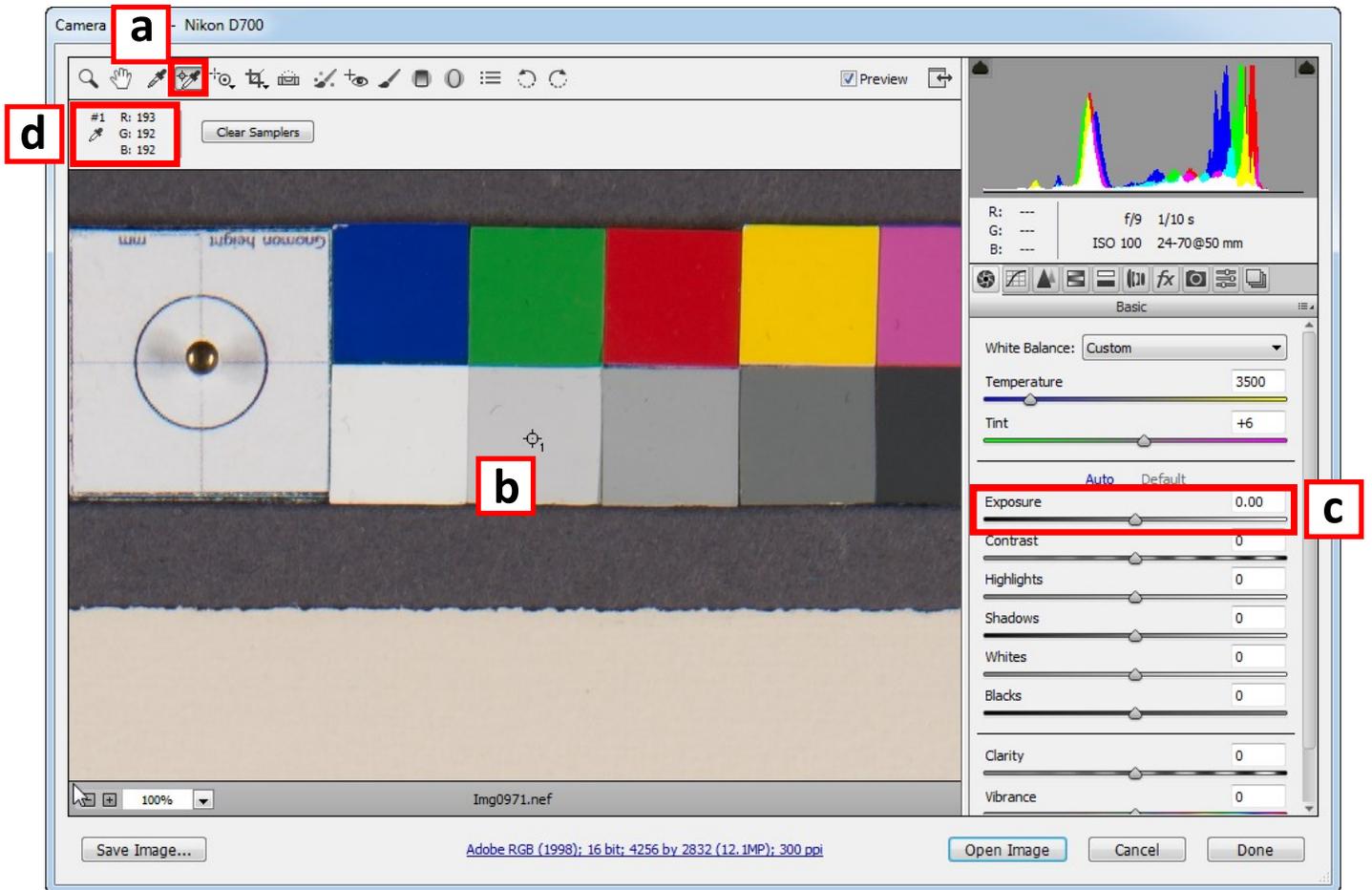


Figure 4.03

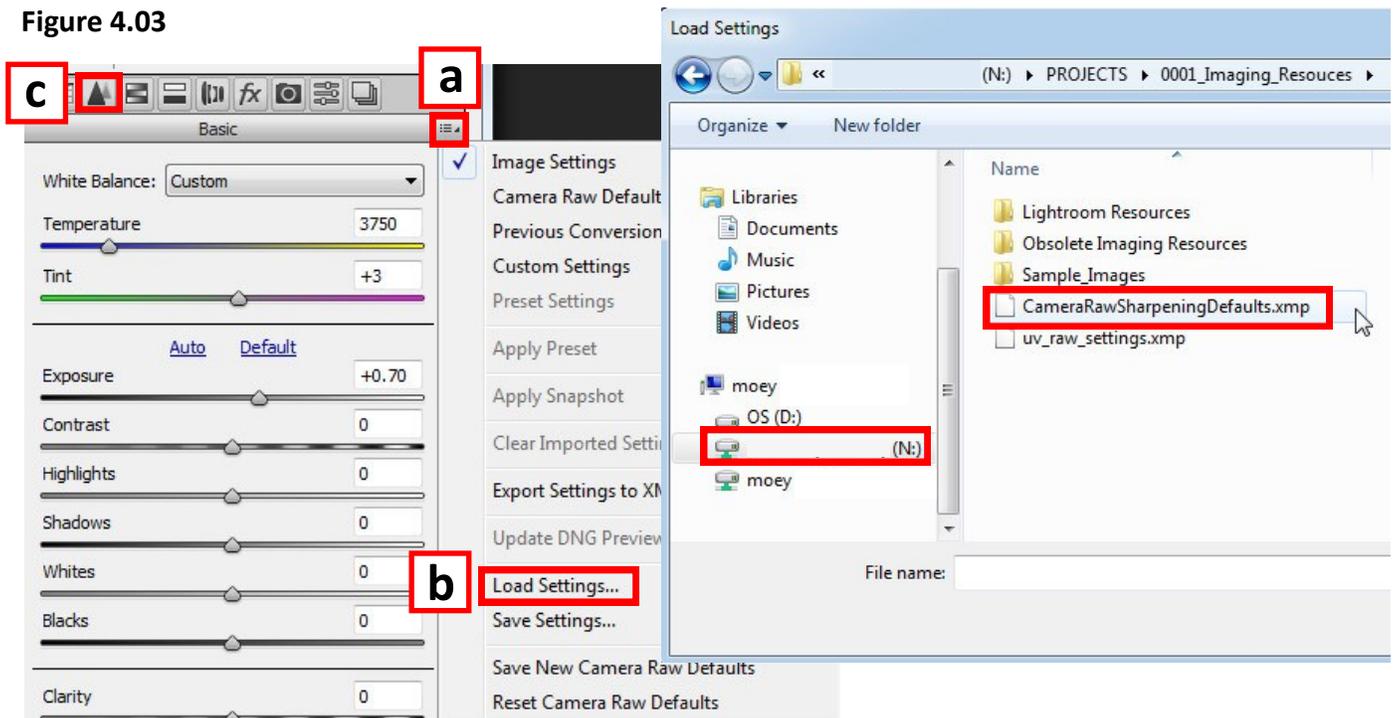


Figure 4.04

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Exposure (Camera Raw)

1. In **Camera Raw**, click on the *Color Sampler Tool* (fig. 4.03a). Use the eyedropper to click on the lightest gray patch (fig. 4.03b).
2. Drag the *Exposure* slider bar (fig. 4.03c) to the right or left so that the R, G, B values are each as close to **200** as possible (fig. 4.03d).

Sharpening (Camera Raw)

1. In **Camera Raw** on the right under the histogram: Click the expand menu icon (fig. 4.04a) → Click *Load Settings* (fig. 4.04b).
2. Click on the N: drive from the left side of the window to click through to *N: > PROJECTS > 0001_Imaging_Resources*.
3. Double click *CameraRawSharpeningDefaults.xmp*.
4. Click the Detail Tool [cone icon (fig. 4.04c)] and confirm the following:

<i>Amount:</i>	50
<i>Radius:</i>	0.5
<i>Detail:</i>	50
<i>Masking:</i>	25
<i>Luminance:</i>	0
<i>Color:</i>	8
<i>Color detail:</i>	50
<i>Color Smoothness:</i>	50

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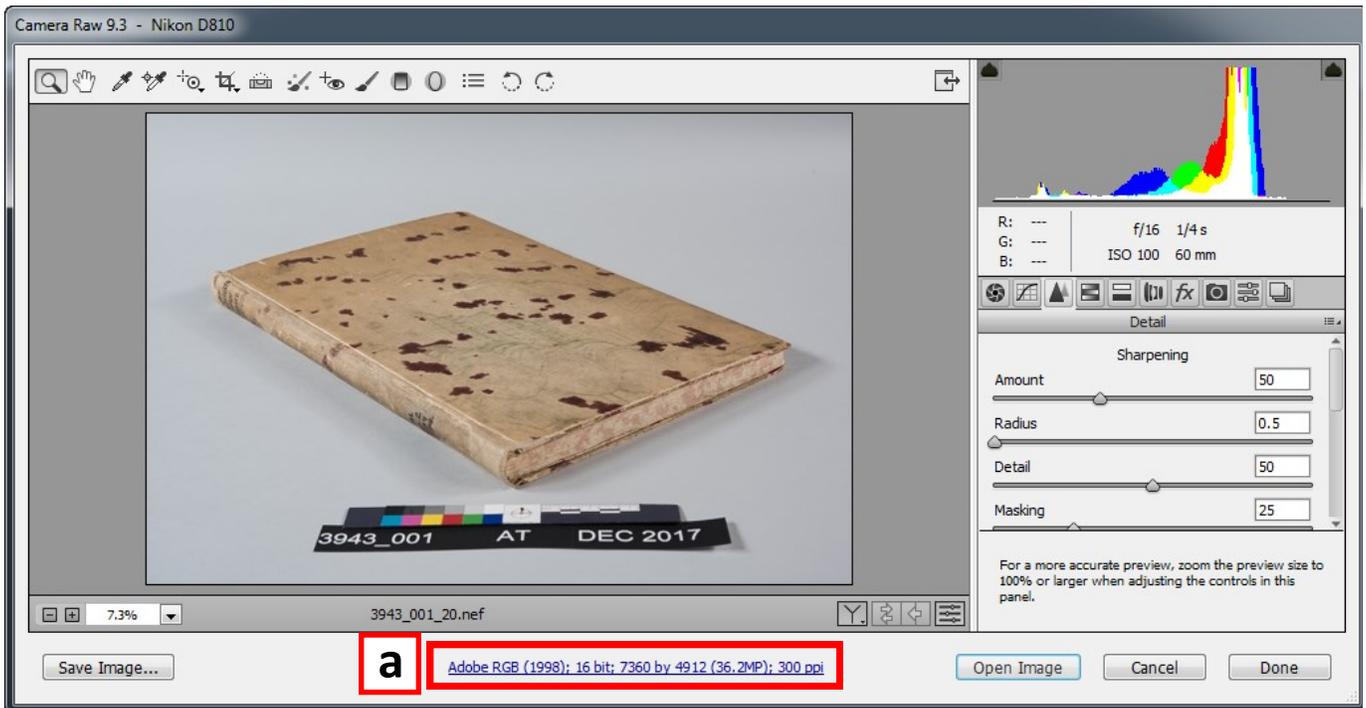


Figure 4.05

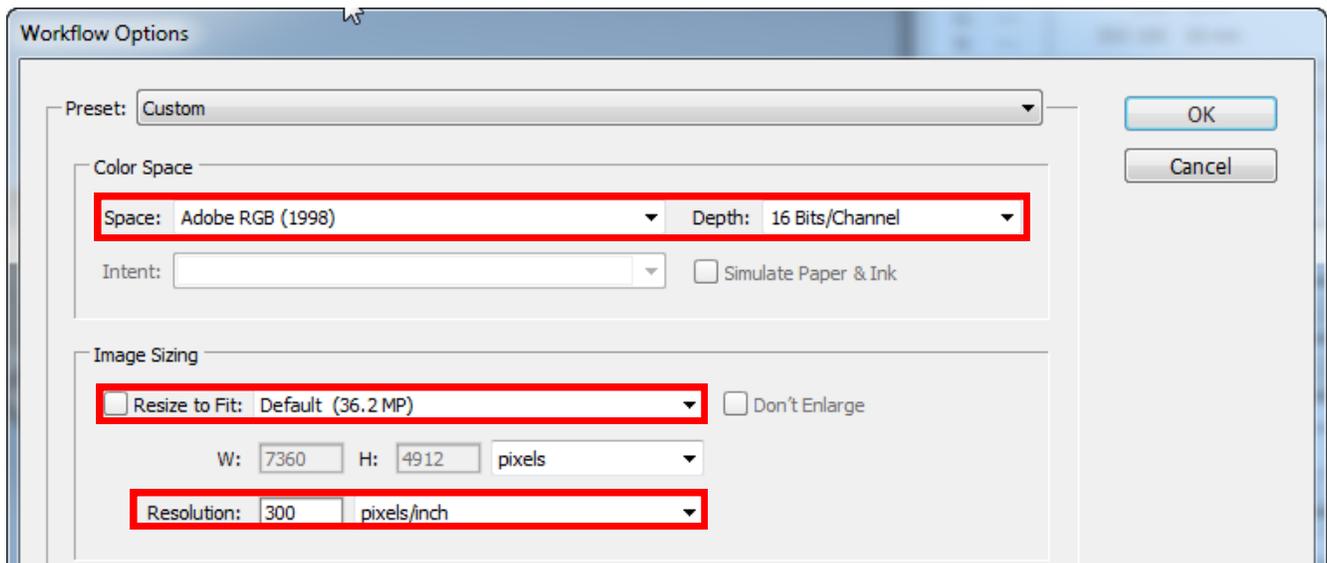


Figure 4.06

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Confirm Workflow Options (Camera Raw)

1. In **Camera Raw**, confirm the hyperlinked string at the bottom of the window (fig. 4.05a) says: [Adobe RGB \(1998\); 16 bit; \[dimension\] by \[dimension\]; \(##.#MP\); 300 ppi](#)
2. If the string has other information, click the hyperlink and edit the string (fig. 4.06):

<i>Color Space</i>	Adobe 1998 RGB
<i>Depth</i>	16bit/channel
<i>Size</i>	Default
<i>Resolution</i>	300 pixel/inch

3. Click *OK* to close the Workflow Options window.

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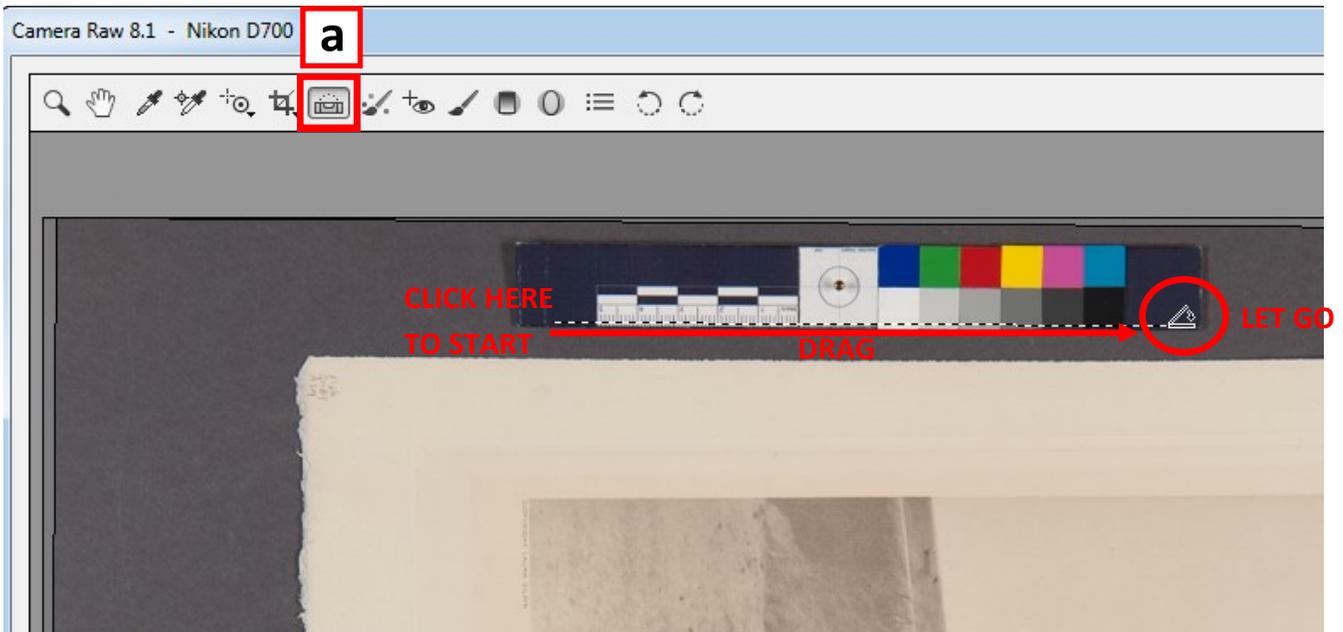


Figure 4.07

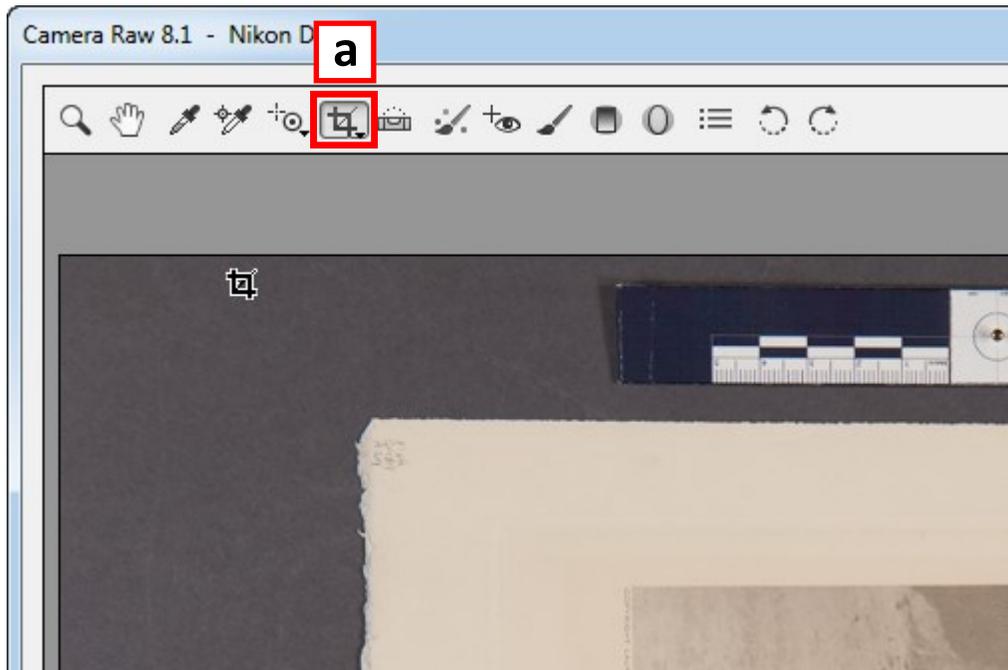


Figure 4.08

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Straightening (Camera Raw)

Follow the steps below only if you did not square up your image field during capture in the Photo Studio (See *Section 2: Capture*).

1. In **Camera Raw**, use keyboard shortcut Ctrl - to zoom out so you can see all four edges of your image.
2. Click the *Straighten Tool* [level icon (fig. 4.07a)] → Drag the tool along a known straight edge in the picture (e.g. the side of the color target), then let go (fig. 4.07).
3. Press Enter.

Cropping (Camera Raw)

Follow the steps below only if you did not fill your image field during capture in the Photo Studio (See *Section 2: Capture*).

1. In **Camera Raw**, click the *Crop Tool* (fig. 4.08a).
2. If you straightened the image → Pull on the borders of the image box to achieve the desired crop and then press Enter.
3. If you did not straighten the image → Drag the tool from one corner to the opposite corner, let go, then press Enter.

Complete Processing of Image (Camera Raw)

1. Click *Done* in the **Camera Raw** window to accept changes.

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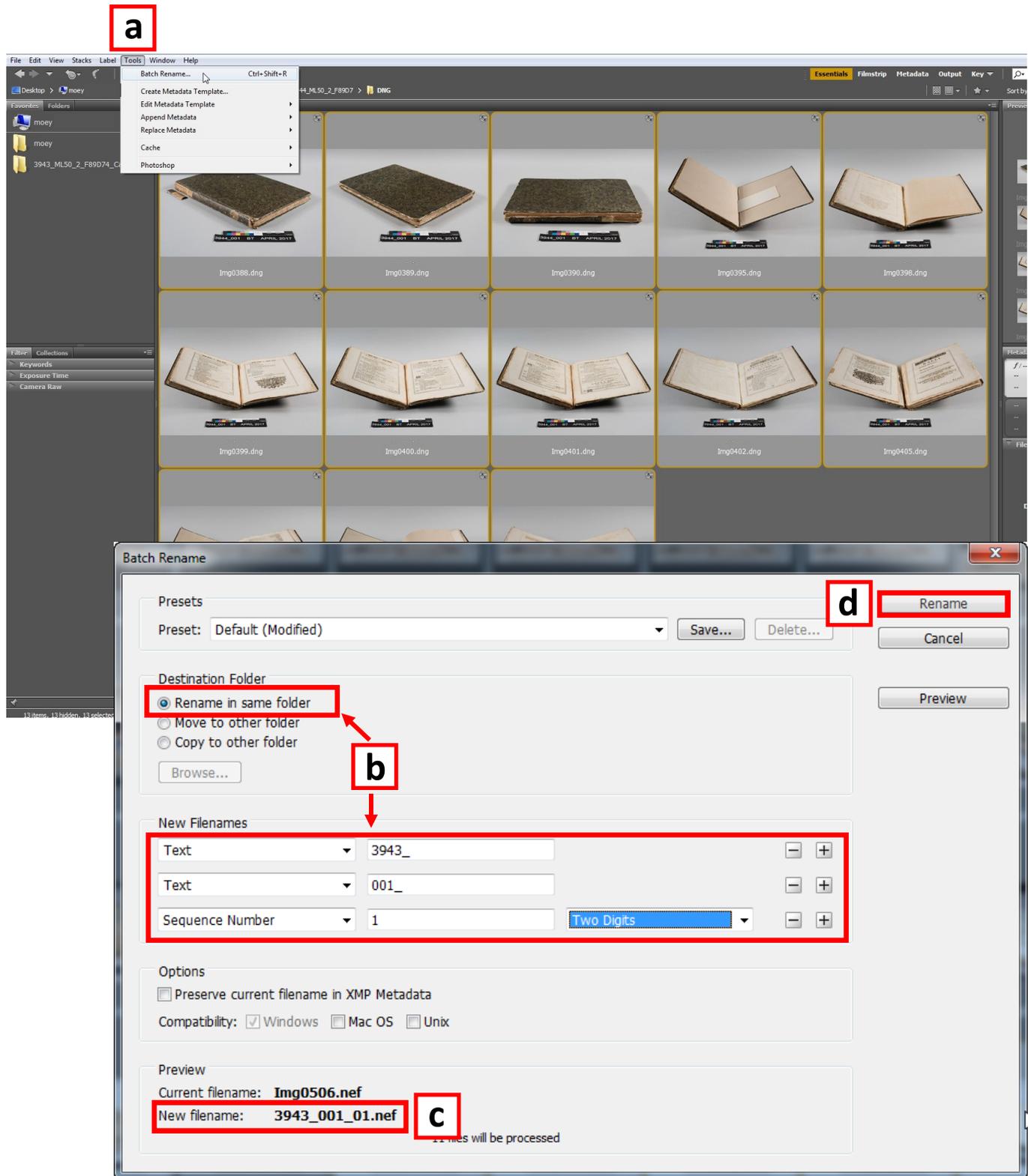


Figure 4.09

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Rename Files (Bridge)

Rename files after you have completed all **Camera Raw** processing and you're ready to move the images out of your *0000_Convert_to_DNG* folder and into the project folder. You should have already deleted image(s) you do not want to process or move into the project folder.

1. In **Bridge**, in your *0000_Convert_to_DNG* folder, highlight all images you want to rename.
2. Click *Tools* → *Batch Rename* (fig. 4.09a).
3. Input the following (fig. 4.09b):

<i>Destination Folder:</i>	Rename in same folder	
<i>Text:</i>	[input project number]_	
<i>Text:</i>	[input item number]_	
<i>Sequence Number:</i>	[input desired starting number]*	Two Digits**

* If you have already saved images for this project, start numbering where you left off.

** If you (will) have more than 99 images, choose Three Digits.

4. Delete any extra filename boxes under *Sequence Number*: Click on - box.
5. If the preview of the filename (fig. 4.09c) is correct, click *Rename* (fig. 4.09d).

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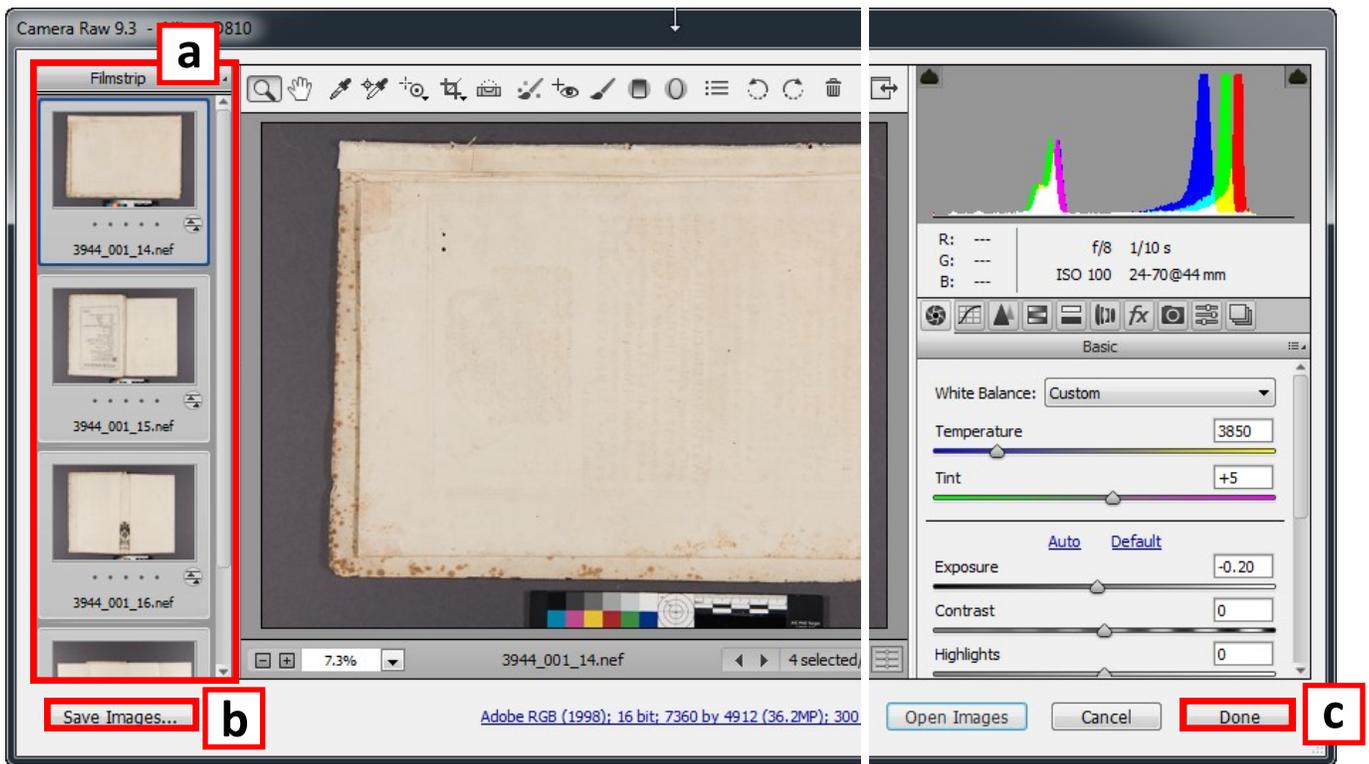


Figure 4.10

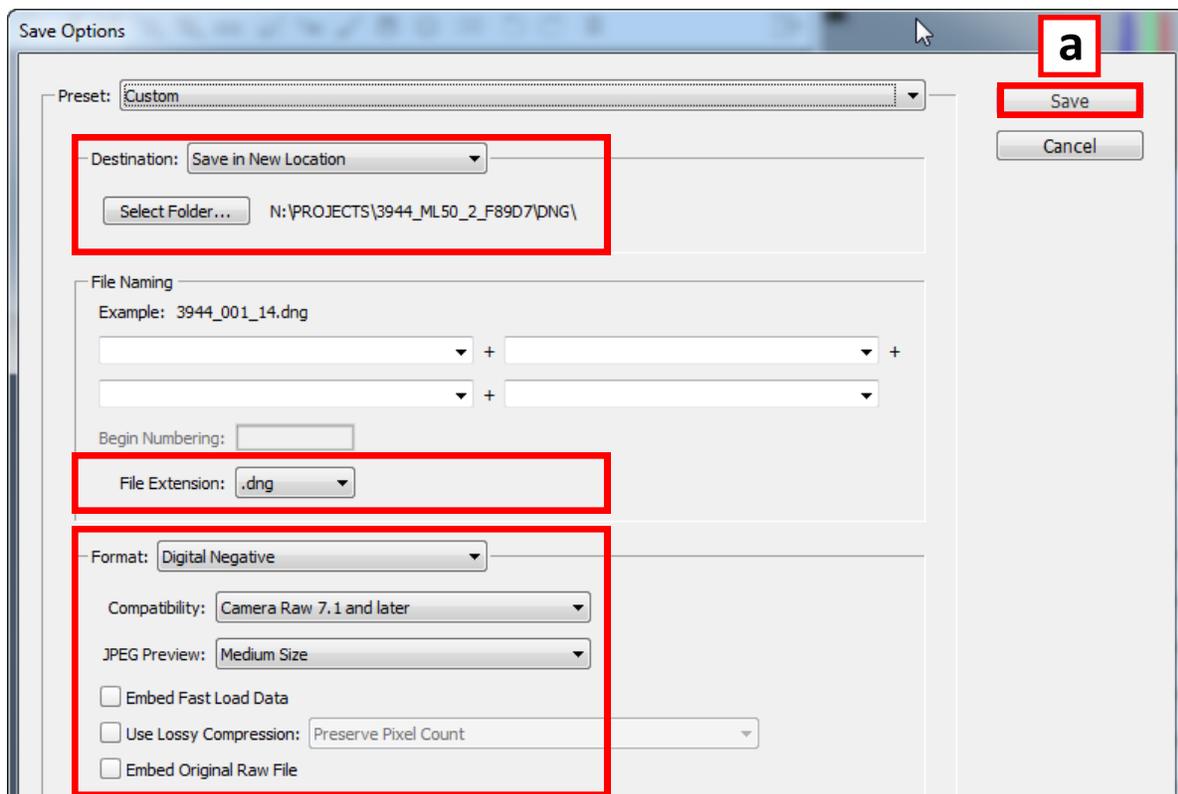


Figure 4.11

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Create .dng Archive Files and Save to Project Folder (Bridge, Camera Raw)

1. In **Bridge**, in your *0000_Convert_to_DNG* folder, highlight all processed images you want to move to out of your *0000_Convert_to_DNG* folder and into the project folder.
2. Double click on one of the highlighted files → All highlighted files will open in **Camera Raw** (this may take some time, depending on how many images you opened).
3. In **Camera Raw**, click in the *Filmstrip* area (fig. 4.10a) → Use keyboard shortcut Ctrl A to highlight all images in the Filmstrip → Click *Save Images* (fig. 4.10b).
4. Select /confirm the following (fig. 4.11):

<i>Destination:</i>	Save in New Location
<i>Select Folder:</i>	N: > PROJECTS > [project number] > [item number] > DNG
<i>File Extension:</i>	.dng
<i>Format:</i>	Digital Negative
<i>Compatibility:</i>	Camera Raw 7.1 and later
<i>JPEG Preview:</i>	Medium Size

5. Click *Save* (fig. 4.11a).
6. Click Done in **Camera Raw** (fig. 4.10c).

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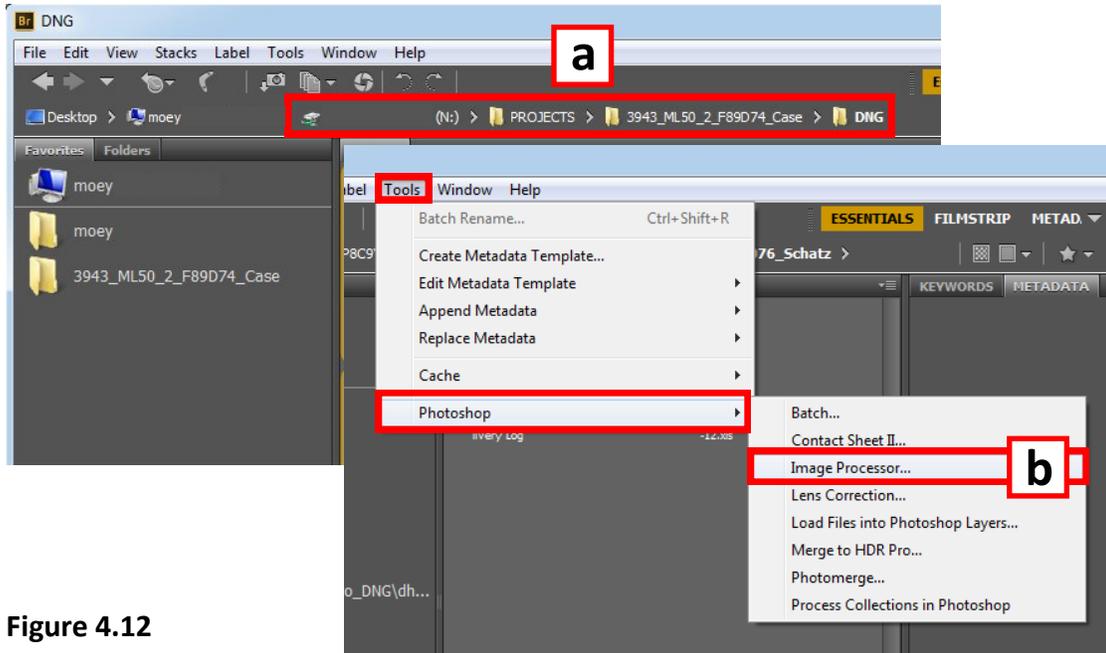


Figure 4.12

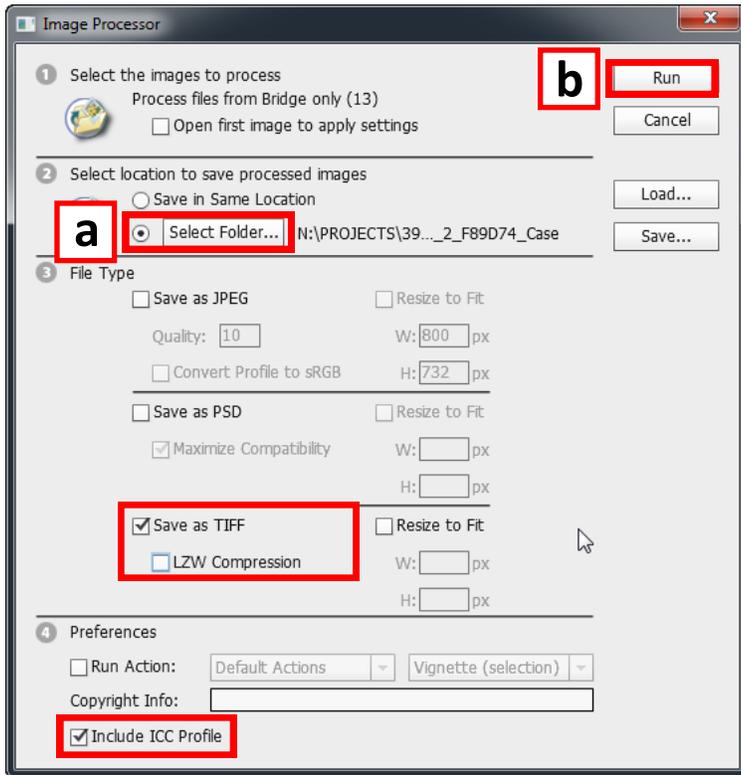


Figure 4.13

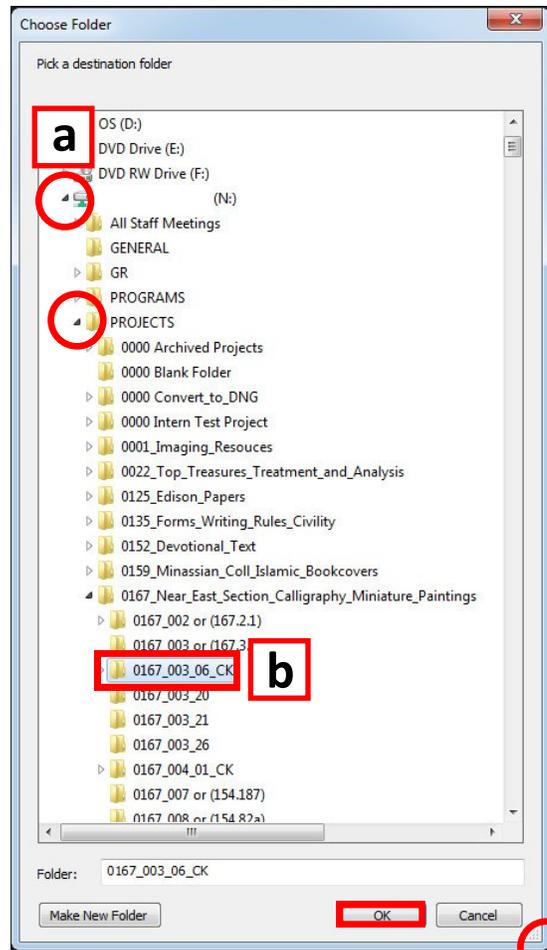


Figure 4.14

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Create .tif Derivative Files and Save to Project Folder (Bridge)

1. In **Bridge**, click *PROJECTS* on the *N: > PROJECTS* string under *ESSENTIALS* (fig. 4.12a). Wait for the folder contents to load in the center *CONTENT* panel, then scroll down and click through to open the project DNG folder.
2. Select the .dng files you want to save as .tif.
3. Click *Tools* → Click *Photoshop* → Click *Image Processor* (fig. 4.12b).
4. Click the *Select Folder* button (fig. 4.13a).
5. Pull on the bottom right corner of the *Choose Folder* window that pops up to make it bigger (fig. 4.14).
6. Click on the triangle arrows (fig. 4.14a) to expand the subfolders *N: > PROJECTS*
7. Scroll down to *[project folder]* and click on it to highlight it—do not open the folder, just highlight it (fig. 4.14b).
8. Click *OK* (fig. 4.14). The *Image Processor* window comes to the fore again:
9. In the *Image Processor* window, confirm the same tick marks as in Figure 4.13.
10. Click *Run* (fig.4.13b).
11. Wait for the tiff processing to complete.
12. In **Windows**, click through to *N: > PROJECTS > [project folder] > [item subfolder]* to confirm you have a DNG and a TIFF folder under the project item subfolder, and that the files are in the DNG and TIFF folders.

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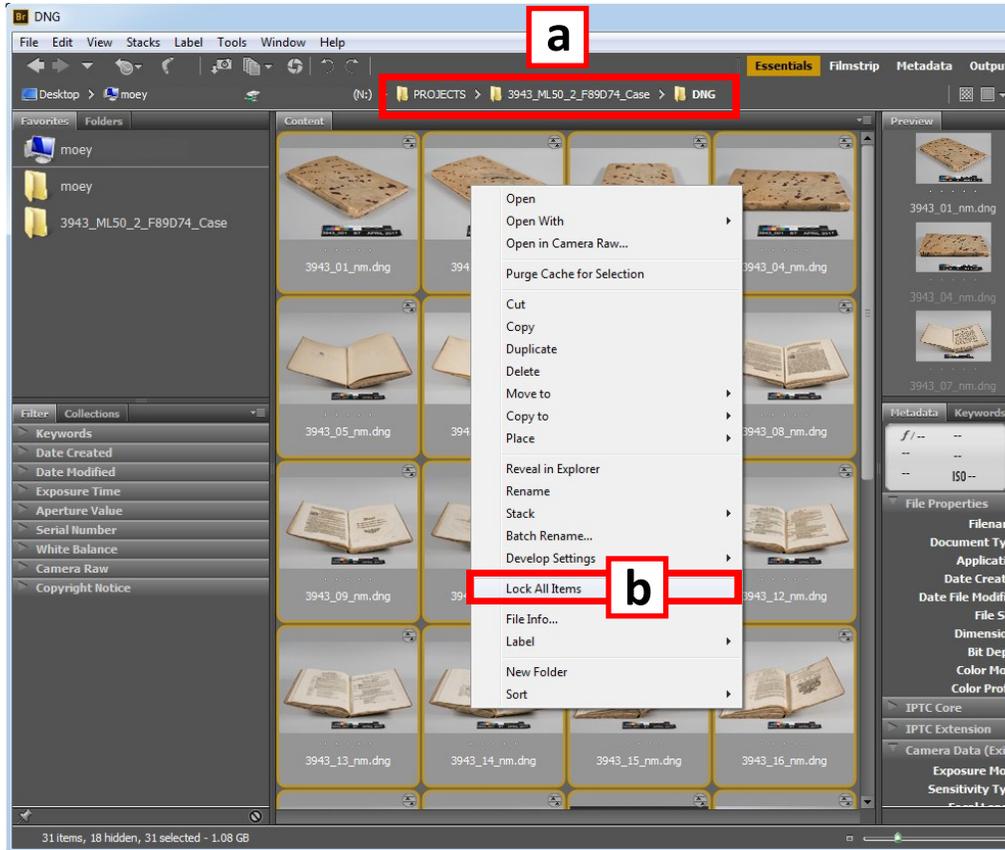


Figure 4.15

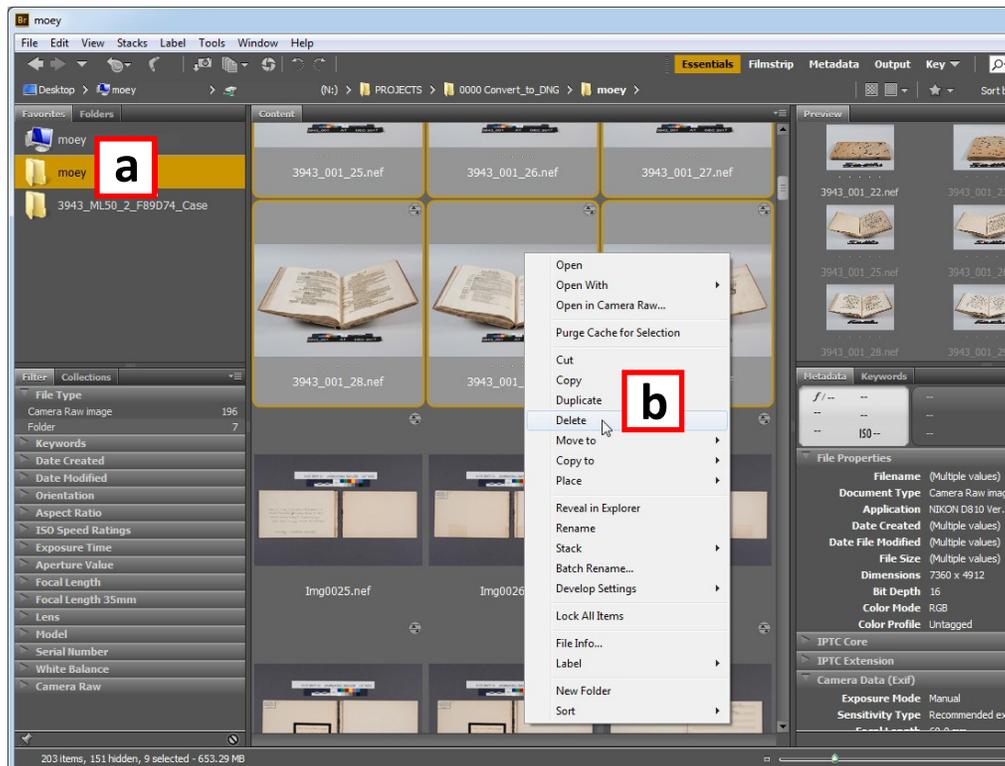


Figure 4.16

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Lock Archive Files (Bridge)

1. In **Bridge**, click *PROJECTS* on the *N: > PROJECTS* string under *ESSENTIALS*. Wait for the folder contents to load in the center *CONTENT* panel, then scroll down and click through to open the project DNG folder (fig. 4.15a).
2. Press keys Ctrl A to select all files
3. Right click on one of the highlighted files → Left click *Lock All Items* (fig.4.15b).

NOTE: You can right click to unlock the files if you need to alter the DNG files in the future.

Clean up Your *0000_Convert_to_DNG* Folder (Bridge)

Do this after you have completed the treatment for that project item.

1. Confirm the project DNG and TIFF files are on the *N:* drive.
2. In **Bridge**, click [your username] folder under *FAVORITES* (fig. 4.16a). Wait for the folder contents to load in the center *CONTENT* panel.
3. Delete the project .nef files from your *0000_Convert_to_DNG* folder: Highlight the files → Right click on one of the highlighted files → Left click *Delete* (fig. 4.16b) → Confirm you want to delete.