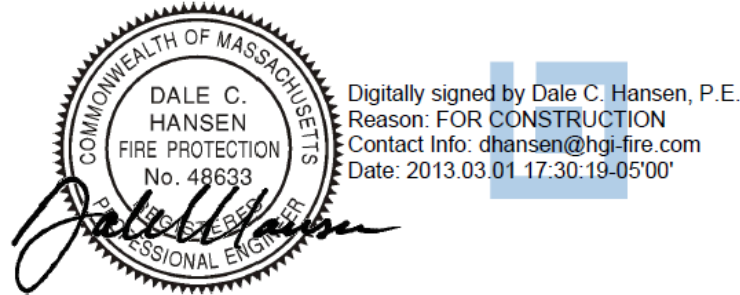*Project:* Engineering Ops

Subject: Affixing Electronic P.E. Seals with Digital Signature

The objective of this procedure is to teach you how to create and digitally sign PDF documents with your electronic P.E. seal. The final digitally signed seal will look like the example image below:

This procedure covers the following tasks necessary to setup Bluebeam so that the process of digitally signing/ sealing a document is quick and easy:

I.   CREATE CLEAN ELECTRONIC P.E. SEALS WITH SIGNATURE
II. CREATE DIGITAL ID
III. AFFIX SIGNED SEAL AND DIGITAL SIGNATURE TO A DOCUMENT

I.   CREATE CLEAN ELECTRONIC P.E. SEALS WITH SIGNATURE

The objective of this section is to create a "clean" signed P.E. stamp for each of your electronic seals that you can save into a new Tool Set in your Bluebeam Revu Tool Chest. Each signed stamp will look like the example image below when you are done and you will be able to pull this quickly into any PDF document:

A. If you don't have one already, create a clean, well-defined scan of your signature in either blue or black ink on clean white paper. I would recommend using a narrow point felt-tip marker or other pen with a similar stroke thickness. Scan your signature actual size and save as a JPEG file (.jpg).

B. Create a new Tool Set in your Bluebeam Revu Tool Chest named "P.E. Seals"

1. Open the Tool Chest in the side bar

2. Click on the "gear" to open the "Manage Tool Sets" dialog

3. Click on the "Add…" button

4. In the "Add Tool Set" dialog create a new tool set named "P.E. Seals" (or any other name you want to call it). Click "OK" to exit both dialogs.

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5. You should now see the new Tool Set on the left side labled "P.E. Seals" (or other name if you used a different name). Click on the small "gear" next to the name and select "Detail" from the drop down menu.

C. Create a "Contact Sheet" in Bluebeam with all of your electronic P.E. seals on it.

1. Go to [File|New] (or click the ⬛ button) and create a blank 8.5 x 11 sheet

2. Go to [Markup|Image…] (or click the ⬛ button) to open up the insert image dialog. Navigate to <G:\ATL-Admin\P.E. Seals Scanned\…> where you will find your electronic seals saved in the subfolder with your name.

3. Select all of the image files you want to create (hint: type Ctrl+A to select all files in the folder at once) then click the "Open" button.

4. The cursor will change to a crosshair; to insert each image, simply click the area of the sheet where you want each image to go. With multiple images, each click will insert one of the images you selected; subsequent clicks will insert the next image in the queue until all images have been placed on the contact sheet.

5. Arrange the images of each seal so that there is some space between them. I arranged my eight seals like the example below:

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6.   You can save this sheet if you want (for temporary protection against data loss), but there is no need to save it permanently.

7.   Shift-select all of the seal images.   Right-click on one of them and select "Properties"

8.   In the Properties window (on the right side), click the "Mask Color:" box and select the WHITE color box (lower right corner). Then select the number box next to "Mask Color:" and increase the value to "10". This effectively makes the white background of your seal images invisible so that it will be applied to a PDF document like a real stamp.
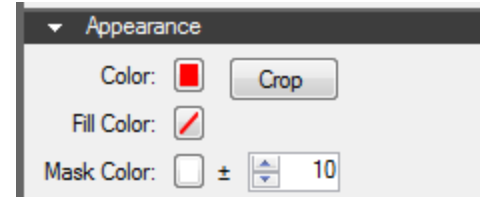
D.   Insert your signature on to the contact sheet and mask it so that it can be overlaid on the seals.

1.   Go to [Markup|Image…] (or click the 🖼 button) to open up the insert image dialog. Navigate to the location where your signature image is saved, select it, and then click on "Open".

2.   Insert the signature image on any whitespace in your contact sheet.

3.   If the signature image is not selected, select it by clicking on it, then right-click on it and select "Properties"

4.   In the Properties window (on the right side), click the "Mask Color:" box and select the WHITE color box (lower right corner). Then select the number box next to "Mask Color:" and increase the value to "10". This effectively makes the white background of your signature image invisible.
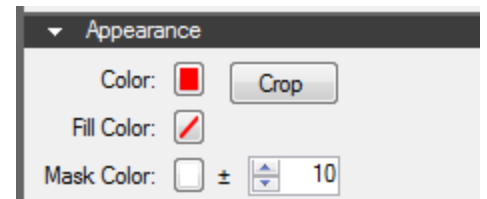
E.   Create "signed" seals by overlaying the signature image on each seal (one at a time) and adding the group to the new "P.E. Seals" Tool Set you created in step I.B above.

1.   Drag your masked signature image over a seal and position it so that the information on the seal remains legible.

2.   Once the signature image is positioned as desired, select it, and then, while holding the Shift key, also select the image of the seal. (See figure to the right.)
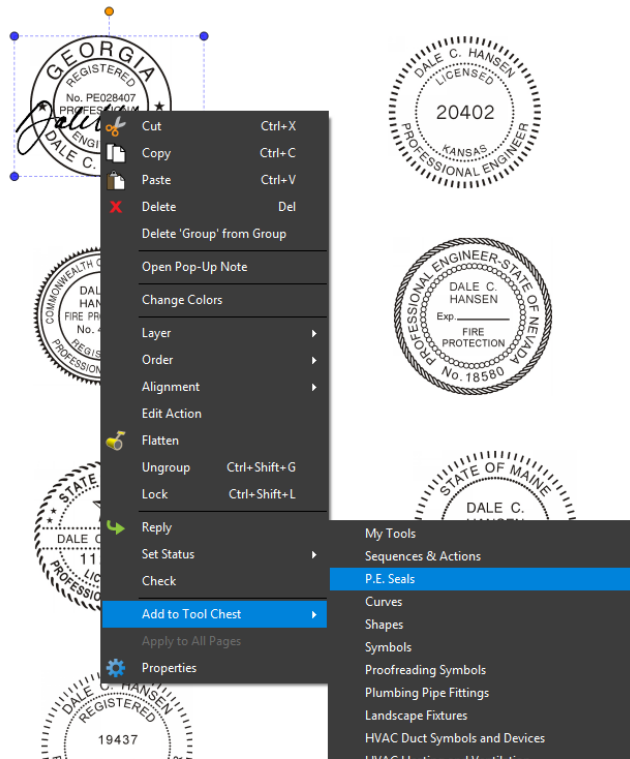
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3.   Release the Shift key. Right-click somewhere in the image area and select "Group." The image should now be a grouped image (as indicated in the figure to the right).
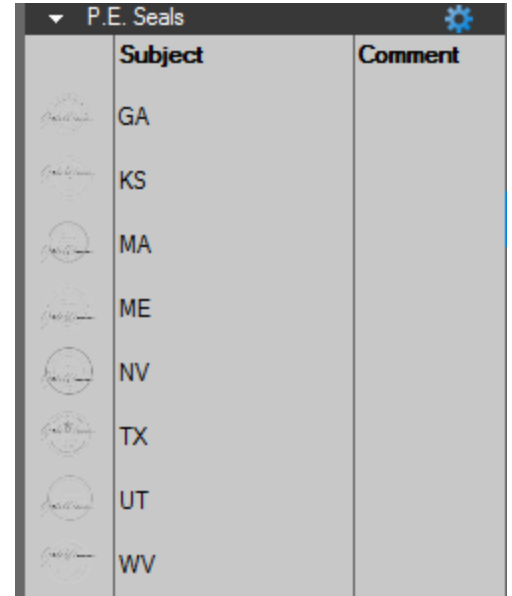

4.   Right-click the grouped image and select "Add to Tool Chest" and then select the "P.E. Seals" Tool Set from the list (see figure below).

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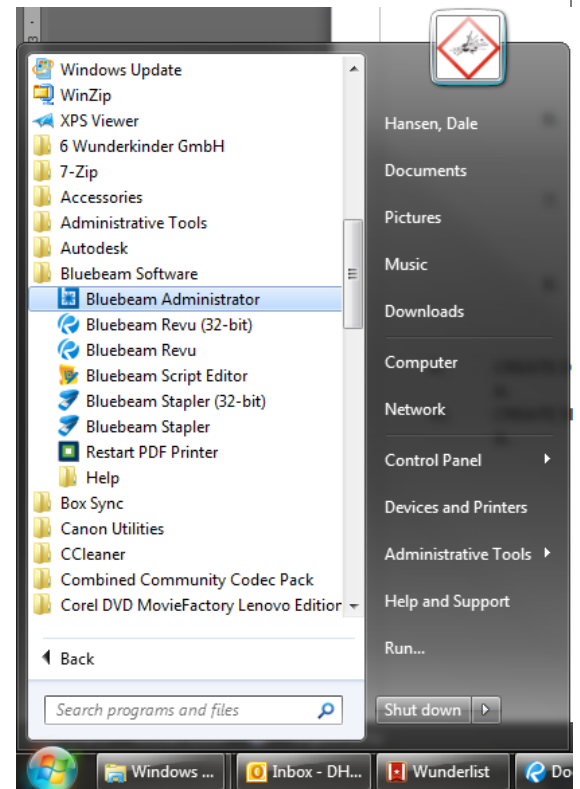**Subject:** Affixing Electronic P.E. Seals with Digital Signature

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5. The grouped image will now appear in your Tool Set on the left side of the screen (see figure to the right)) with the name "Group". Double-click on the name "Group" and rename it (I renamed mine with the state abbreviations).

6. Right-click the grouped image in the contact sheet and select "Ungroup" from the menu. Then deselect the group (i.e., click somewhere else in the page) and reselect just the signature image, and drag it to overlay the next seal. Repeat steps E.1 thru E.5 for each seal on your contact sheet.

7. Once completed, you will have "signed seals" ready to apply to any PDF document. (Note: You can reorder the list of P.E. seals in your Tool Set by simply dragging and dropping the tool in the order you want.)

F. Backup Bluebeam Settings:

1. At this point, I would recommend you backup your Revu settings so you won't have recreate these tools again if you change computers or something similar.

2. To backup your settings, close Bluebeam, then from the Start Menu, open Bluebeam Administrator (see figure to the right).

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3. In Bluebeam Administrator, click on the "Backup Settings" button in the "Revu" tab and save a backup file somewhere where you will remember.
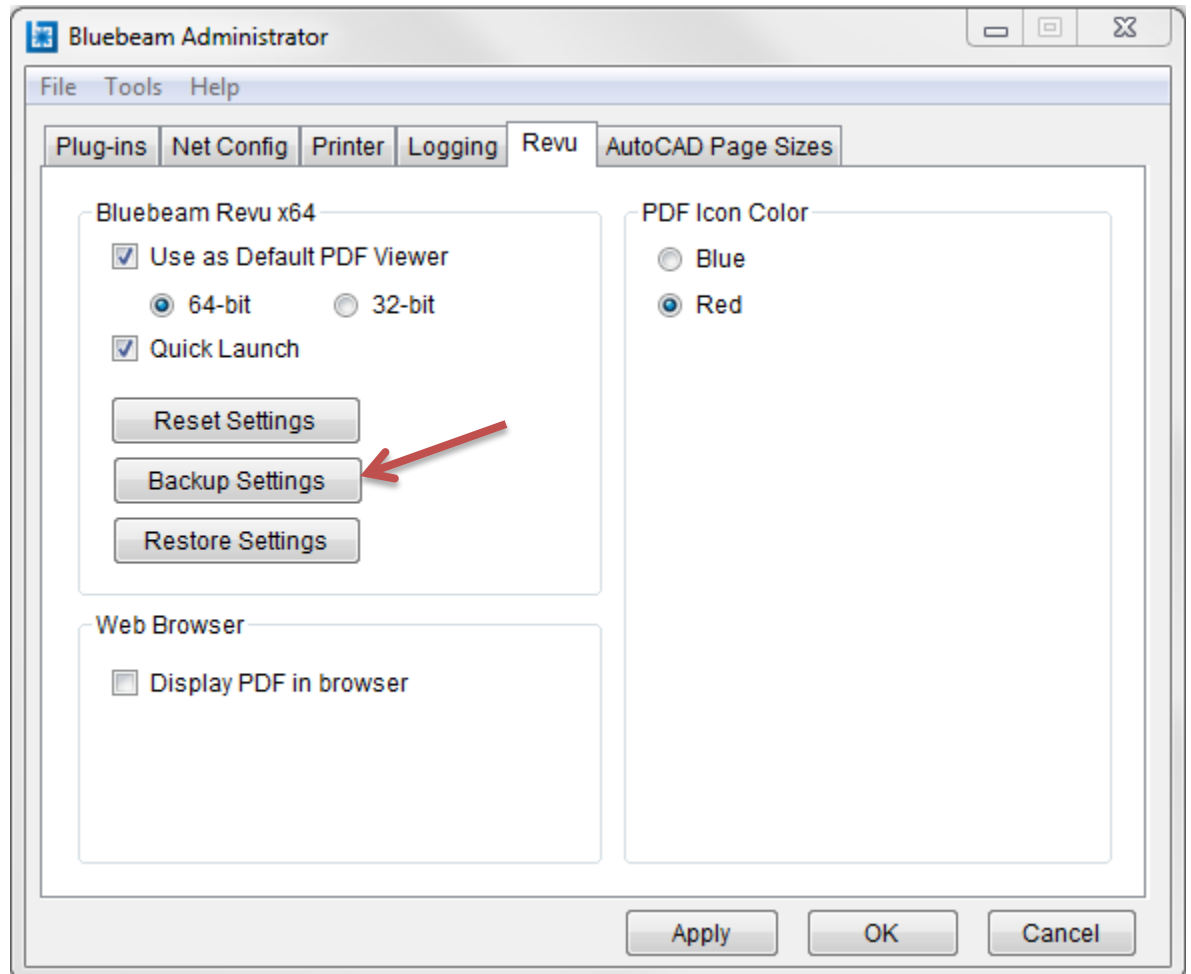

II. CREATE A DIGITAL ID

A. Open Bluebeam and go to [Document| Signatures| Digital IDs…] to open the Manage Digital IDs dialog box.

B. Click on the "+" button on the left to create a new Digital ID. This opens up the "New Digital ID" dialog (see figure on following page).

1. Select the "Create Digital ID file" radio button.

2. Fill out the fields in the "Identity" section:

i. I left the Organizational Unit field blank.

ii. Usage should be "Digital Signatures and Data Encryption"

iii. Key Algorithm can be left as 1024-bit RSA

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3. Under the PKCS#12 Options section:

    i. Choose a file location that will be easily accessed by you.

    ii. Enter the signature password in the "Password" and "Confirm" boxes.

4. Click "OK"
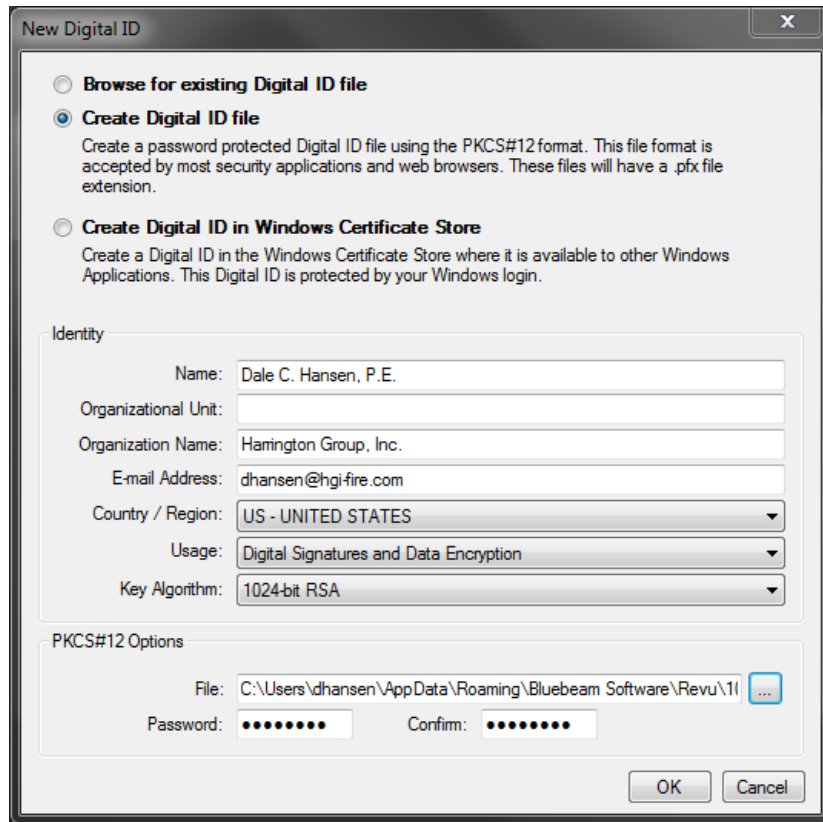
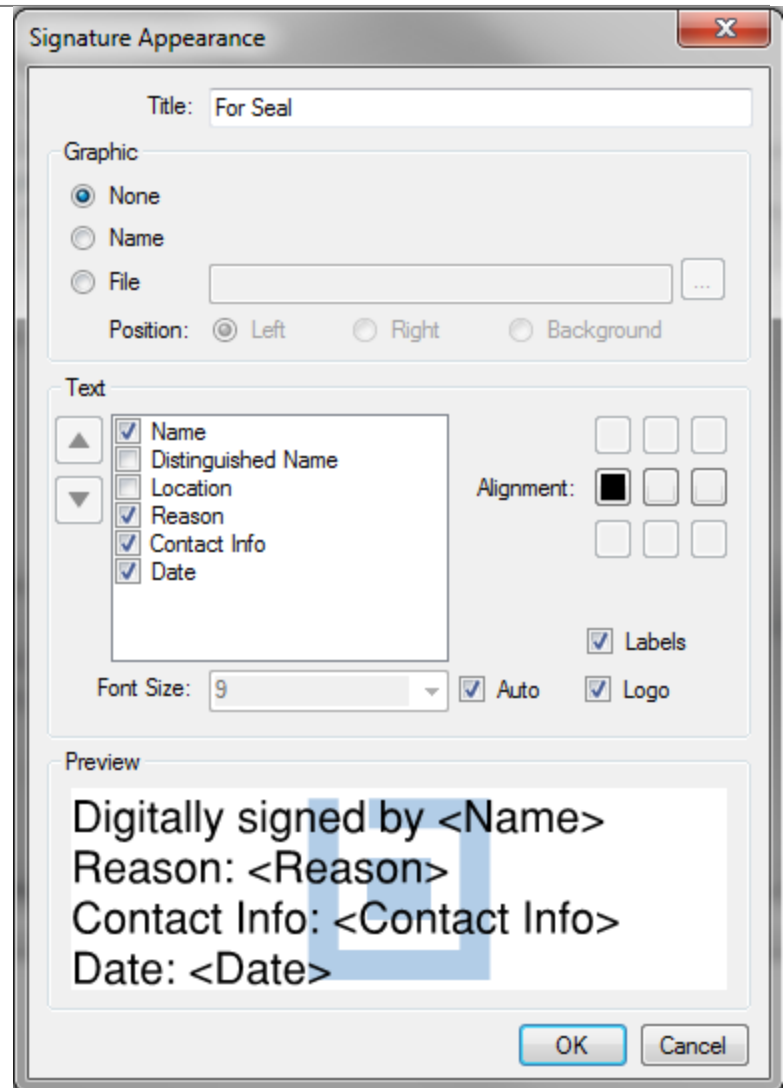C. Your new Digital ID should now appear in the "Manage Digital IDs" dialog.

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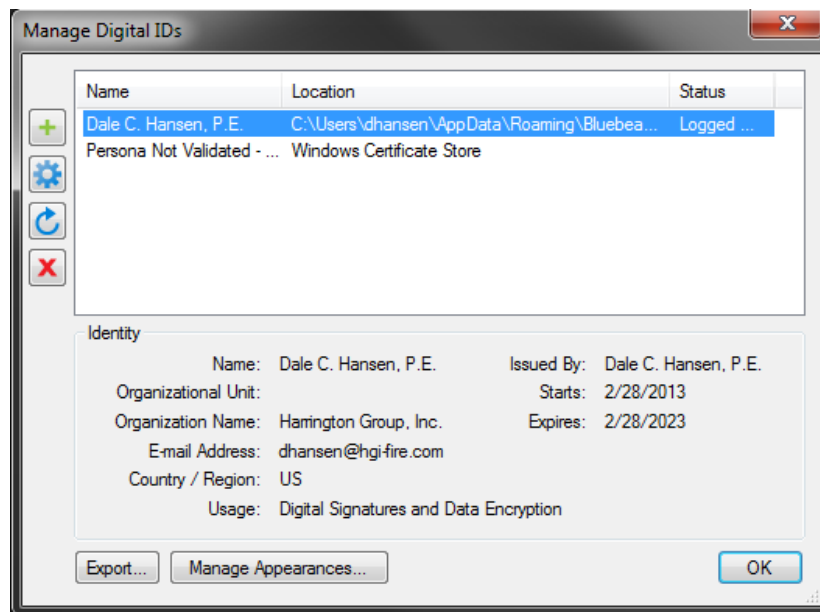
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D. Select the new ID and click on the "Manage Appearances…" button. This will bring up the Appearances dialog.

1. Click the "+" button to create a bring up the Signature Appearance dialog (see figure to the right)

2. Provide a Title for the appearance. I suggest something like "For Seal".

3. Under the "Graphic" section, select "None".

4. Mark the other options desired. I would suggest those indicated in the figure, though you may or may not want to list the reason. The "Logo" option, if checked, will place the Bluebeam logo watermark behind the signature (as indicated).

5. Click "OK" to accept the options and close the dialog.

(Note: You can create other appearances, if desired, for other purposes. For example, you can create one that links your signature image as the graphic, for use in digitally signing letters, contracts, etc.)

Signature Appearance

Title: For Seal

Graphic
- None
- Name
- File _____ [...]
- Position: Left Right Background

Text
- ☑ Name
- ☐ Distinguished Name
- ☐ Location
- ☑ Reason
- ☑ Contact Info
- ☑ Date

Alignment: ■ ☐ ☐ / ☐ ☐ ☐

☑ Labels

Font Size: 9 ☑ Auto ☑ Logo

Preview

Digitally signed by <Name>
Reason: <Reason>
Contact Info: <Contact Info>
Date: <Date>

[OK] [Cancel]

E. Click "OK" on all open dialog boxes to accept all changes/ settings.

III. **AFFIX SIGNED SEAL AND DIGITAL SIGNATURE TO A DOCUMENT**

A. Go to [File|New] (or click the ▣ button) and create a blank 8.5 x 11 sheet (or alternatively, open up a document that requires a seal and signature).

B. From the "P.E. Seals" Tool Set on the left side, select the appropriate state seal and place it in the document by clicking in the document at the appropriate position. Reposition as necessary. Leave room adjacent to the seal for the digital signature.

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C. When you are satisfied with the positioning of the seal, right click the signed seal and select "Flatten" to affix it to the document.

D. At this point, you may need to apply document security permissions to the document in order to comply with some state rules so that document changes or extracting of content is not permitted. If so, you may change the permissions on the Security tab of the Document Properties dialog, which can be accessed by clicking on the gold padlock button 🔓 at the lower right corner of the Bluebeam window. Bring up the PDF Security dialog by clicking on the "Change Permissions" button. Recommended settings are pictured to the right. You can save these settings for future use at the top of the dialog.

E. When the document is ready for signing (i.e., when there are no further changes or markups necessary), sign the document by going to [Document| Signatures| Sign Document…].

F. Your curser will change to a crosshair type, and you click and drag a rectangle to define the region where the signature will appear. (Note: if the rectangle is not long enough, the signature text will automatically wrap. This may look a little funny, but will still result in a valid signature.)

G. Once the signature area is defined, the Sign dialog appears (see figure to the right).

1. Select your Digital ID and enter your password.

2. Select Document Certification and the level of document changes you will allow after certifying the document. (For engineering work product, I recommend selecting "No changes allowed."

3. Depending on the options selected when you set up your signature appearance, fill in the appropriate Options text.

   i. Note that the "Reasons:" field is a pull down menu with some default options, but you can type whatever you want here.

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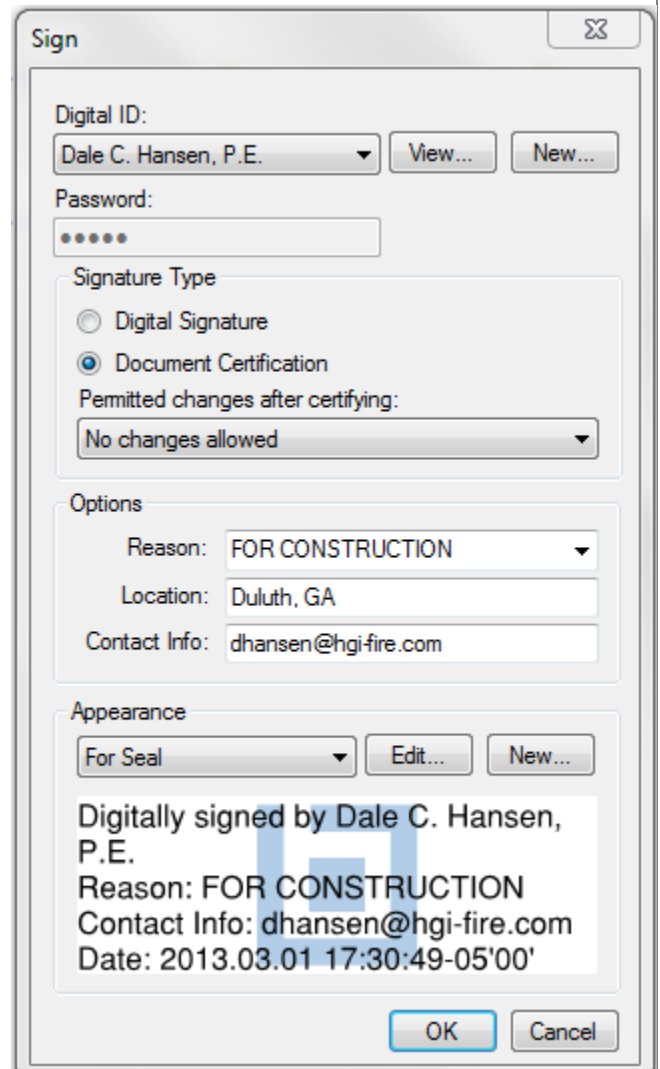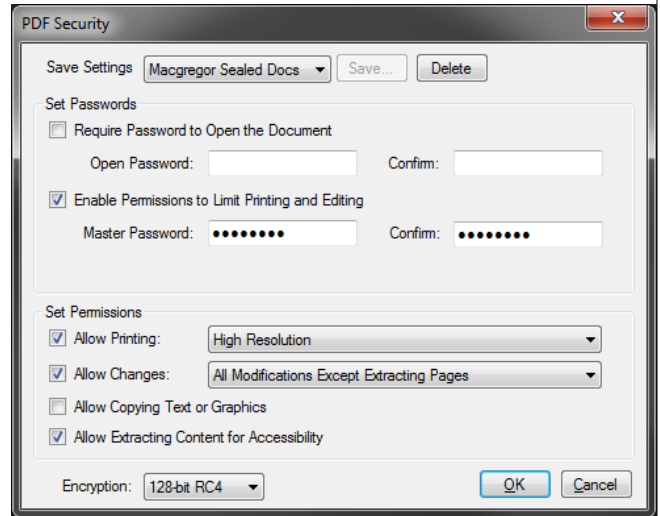
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4. Select the signature appearance you want to use.

    i. If you want to make changes to the appearance (e.g., you don't want to indicate the reason, or you want to remove the Bluebeam logo), you can click on "Edit…"; if you want to create a new appearance, click on "New…" and the appropriate dialog will come up to guide you through that process.

5. Once you are 100% satisfied with your choices, and you're happy with the preview shown at the bottom, click on "OK".

6. At this point, you will be prompted to save the certified file. I would recommend you use the original document filename with "_sealed (YYMMDD)" appended to it. Click "Save" and the certified file will be created.