DIGITAL SEAL AND SIGNATURE REGULATIONS

2015 Florida Statutes

Title XXXII REGULATION OF PROFESSIONS AND OCCUPATIONS
Chapter 471ENGINEERING - SECTION 025 Seals
471.025   Seals.—

(1)   The board shall prescribe, by rule, one or more forms of seal to be used by licensees. Each licensee shall obtain at least one seal in the form approved by rule of the board and may, in addition, register his or her seal electronically in accordance with ss. 668.001-668.006. All final drawings, specifications, plans, reports, or documents prepared or issued by the licensee and being filed for public record and all final documents provided to the owner or the owner's representative shall be signed by the licensee, dated, and sealed with said seal. Such signature, date, and seal shall be evidence of the authenticity of that to which they are affixed. Drawings, specifications, plans, reports, final documents, or documents prepared or issued by a licensee may be transmitted electronically and may be signed by the licensee, dated, and sealed electronically with said seal in accordance with ss. 668.001-668.006.

Chapter 668 ELECTRONIC COMMERCE – PART 1 ELECTRONIC SIGNATURES (ss.668.001-668.006)
668.003   Definitions.—As used in this act:
(1)   "Certificate" means a computer-based record which:
(a)   Identifies the certification authority.
(b)   Identifies the subscriber.
(c)   Contains the subscriber's public key.
(d)   Is digitally signed by the certification authority.
(2)   "Certification authority" "Certification authority" means a person who issues a certificate.
(3)   "Digital signature" means a type of electronic signature that transforms a message using an asymmetric cryptosystem such that a person having the initial message and the signer's public key can accurately determine:
(a)   Whether the transformation was created using the private key that corresponds to the signer's public key.
(b)   Whether the initial message has been altered since the transformation was made.

A "key pair" is a private key and its corresponding public key in an asymmetric cryptosystem, under which the public key verifies a digital signature the private key creates. An "asymmetric cryptosystem" is an algorithm or series of algorithms which provide a secure key pair.

(4)   "Electronic signature" means any letters, characters, or symbols, manifested by electronic or similar means, executed or adopted by a party with an intent to authenticate a writing. A writing is electronically signed if an electronic signature is logically associated with such writing
Reference: http://www.flsenate.gov/Laws/Statutes/2015/471.025
Reference(2): http://www.flsenate.gov/Laws/Statutes/2015/668.003

Florida Administrative Code 61G15-23.003 - https://www.flrules.org/gateway/reference.asp?No=Ref-00790
   61G15-23.003 Procedures for Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.
   (1) Engineering work which must be sealed under the provisions of Section 471.025, F.S., may be signed electronically or digitally as provided herein by the professional engineer in responsible charge. As used herein, the terms "certification authority," "digital signature" and "electronic signature" shall have the meanings ascribed to them in Sections 668.003(2), (3) and (4), F.S. The affixing of a digital or electronic signature to engineering work as provided herein shall constitute the sealing of such work.
   (a) A scanned image of an original signature shall not be used in lieu of a digital or electronic signature.
   (b) The date that the electronic signature file was created or the digital signature was placed into the document must appear on the document in the same manner as date is required to be applied when a licensee uses the manual sealing procedure set out in Rule 61G15-23.002, F.A.C.

   (2) A professional engineer utilizing a digital signature to seal engineering work shall have their identity authenticated by a certification authority and shall assure that the digital signature is:
   (a) Unique to the person using it;
   (b) Capable of verification;
   (c) Under the sole control of the person using it;
   (d) Linked to a document in such a manner that the electronic signature is invalidated if any data in the document are changed
Secure Hash Standard - https://www.flrules.org/gateway/reference.asp?No=Ref-00790

THE DIGITAL SEAL AND SIGNATURE

An Engineer, Architect, and Surveyor's Digital Signature must be in compliance with the latest State Statue requirements **471.025 & Florida Administrative Code 61G15-23.003.** The digital signature will include a Certificate Authority and the NEW additional two sentences added by FBPE.

JOHN DOE
2016.05.16
17:04:02
'00'04-

This item has been electronically signed and sealed by John Doe PE using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

A Digital Signature
The online equivalent of a notarized signature, in this case the Certificate Authority (CA) serves as the notary in terms of verifying your identity while a trusted timestamp verifies the date and time the signature was applied. Digital signatures allow users to keep their entire workflow online. Individuals can certify and sign documents as needed right from the comfort of their computers.

A Digital Signature is made up of several components:

1) **Digital Certificate -** a way of proving your identity in online transactions and is unique to you when signing a document. The typical digital certificate includes your full name, email address and your professional qualifications for signing.

2) **Certificate Authority (CA) -** a third party verification entity that certifies your identity with a digital certificate, software or a Token Key on a Smart Card or USB drive. Some companies require background checks or other various ways to verify your identity. The verification process can take up to two weeks.

3) **Secure Hash -** when the Engineer clicks "sign" in Adobe Acrobat Professional or Reader, a unique digital fingerprint (called a hash) of the document is created using a mathematical algorithm. This hash is specific to this particular document; even the slightest change would result in breaking the hash. The hash is encrypted using the Engineer's private key from the digital certificate. The encrypted hash and public key are combined into a digital signature, which is applied to the document for security.

4) **Professional's Seal -** scan a wet stamp of the professional's seal into a 2" square j-peg or pdf file and save on the computer hard drive.

    Note: Per Florida Administrative Code 61G15-23, if plans and documents are being digitally signed and sealed by a Florida license professional engineer, the following verbiage must be present either a) next to your professional seal and saved as the PE Seal graphic about 2"h x 4.5"w or b) added anywhere on each drawing or legal document page:

    (1) This item has been electronically signed and sealed by [LICENSEE NAME] using a Digital Signature and date. (2) Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

How does it Work?

When you apply a digital signature on a drawing, a cryptographic operation binds the digital certificate and the data being signed such as a PDF or other drawing file into one unique descriptor. Any change to the drawing will remove your unique descriptor or break the hash and will be indicated when opened in Adobe, stating the Signature is Invalid "This Document has been modified".

Authentication – since a third-party validated certificate is used to apply the signature, recipients can easily verify the validity of the drawing. A right click on the digital signature displays a pop up screen to validate the Public Key, Summary, Certificate Authority, Revocation, Trust, Date/Time, Signature Properties and Policies. When the drawing is opened in Adobe it will automatically try to verify the signature.

Data integrity – during the signature verification, Adobe checks to see if the data in the document has been changed since the signature was applied. Any change to the original document will result in the validation failing.

You can no longer Self-Sign your own Digital Signature. The new requirement involves having your identity, digital seal and signature validated by a 3rd party Certificate Authority. Local Engineers, Architects and Surveyors are using Entrust, IdenTrust, and GlobalSign most frequently. These companies validate your identity then have you download a new digital certificate to your computer, use software or they will send you a USB drive with a token key or serial number.

Any other Certificate Authorities that are certified by either GSA's FPKI and/or the Web Consortium will be acceptable to the City of Tampa.
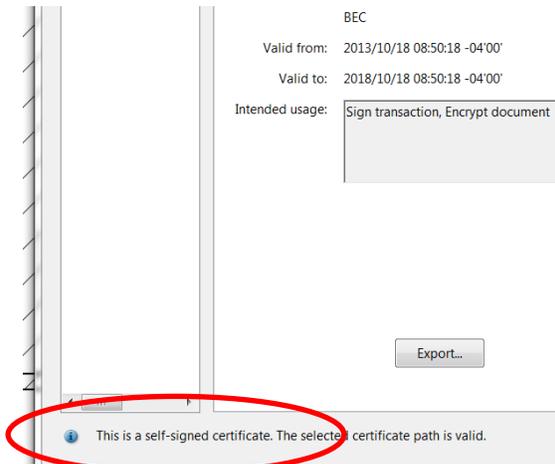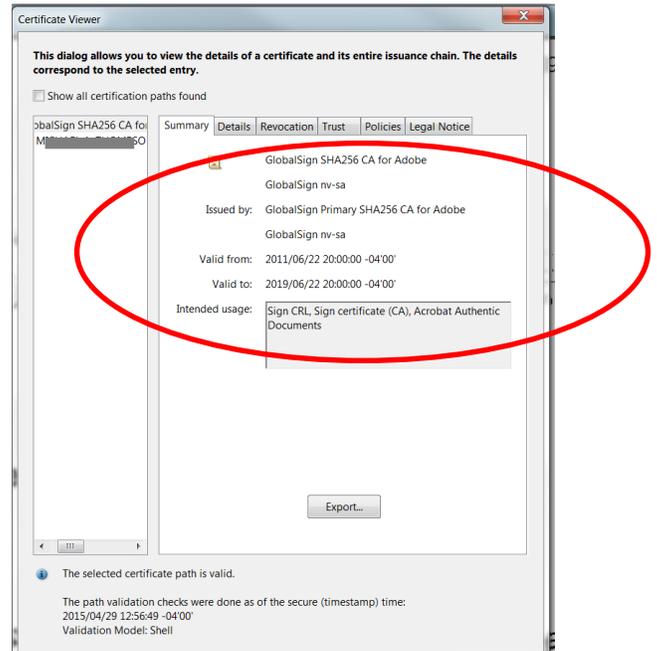
Wrong – Self Signed   Correct – Certificate Authority Attached

Create the Appearance of your Digital Signature

Prepare Your Seal for Import –

a) Take a blank piece of 8.5 x 11 printer paper and wet seal the paper with your Professional Engineers or Architects seal. A crimp stamp can be used however, you must highlight the ruffled edges of the seal with the side of a pencil lead.

b) Take your time and make it look nice and square as this will represent you for the next five years.

c) Scan the seal into a graphic .jpg file and save it in an easy to find place on your computer hard drive.

d) Crop the .jpg of your seal down to just outside the edges of the seal approximately 2"x2" square in size. We will crop it down for you if you need assistance.

e) If you choose to add the two sentences required by FBPE to your Seal graphic you can do so now. The sentences will read: **This is has been electronically signed and seal by [LICENSEE NAME] using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.**

f) *Most Adobe versions require the graphic to be a .pdf file instead of a .jpg file.
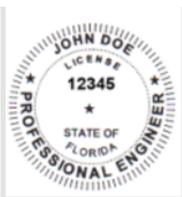
From

2"x2"

to

2"x4"
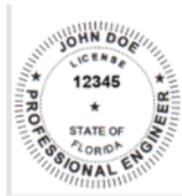
signed and sealed by John Doe PE using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Or

this

This item has been electronically signed and sealed by JOHN DOE using a Digital Signature and Date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
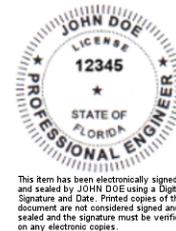
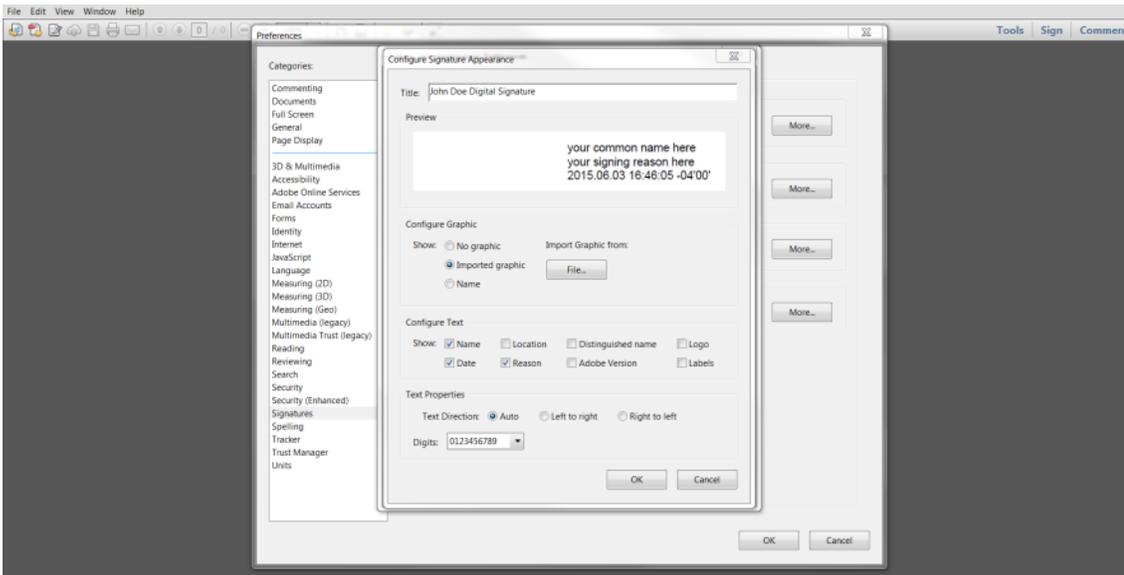**Return back to Adobe Acrobat to begin building your Digital Seal and Signature Combo appearance.**

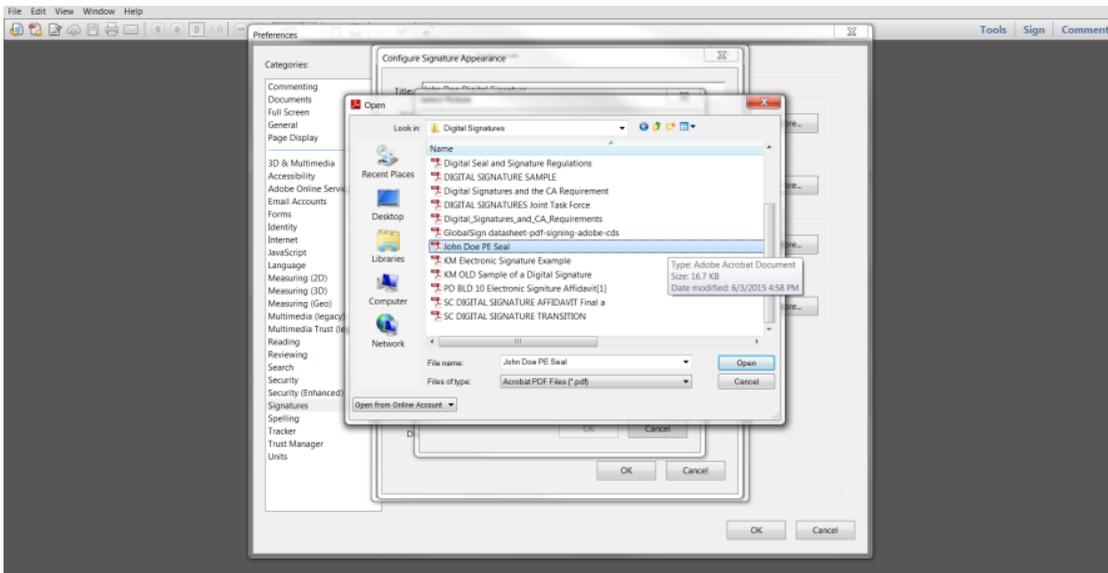## 1) Main Menu>Choose Edit > Preferences > Signatures>Creation & Appearance, click More
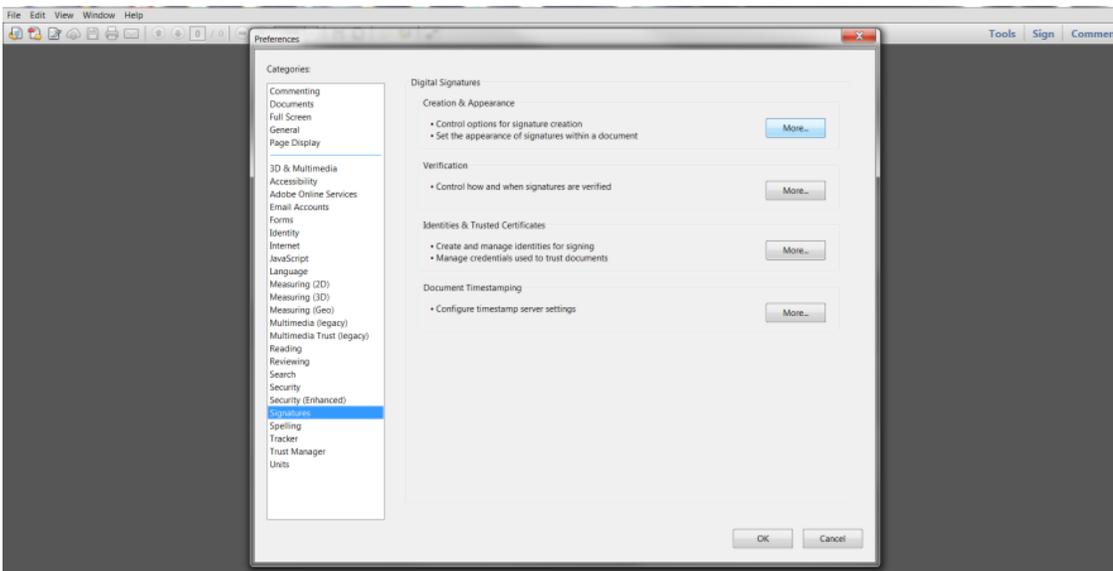
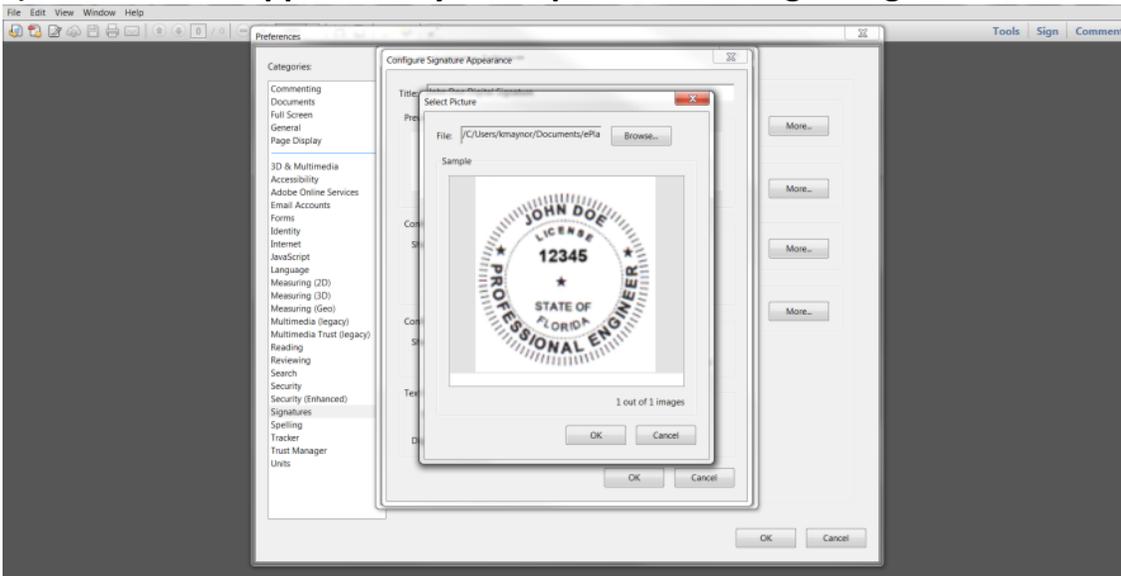**2) Adobe Default Security, PKCS#7 Deatched, for Appearances click NEW.**
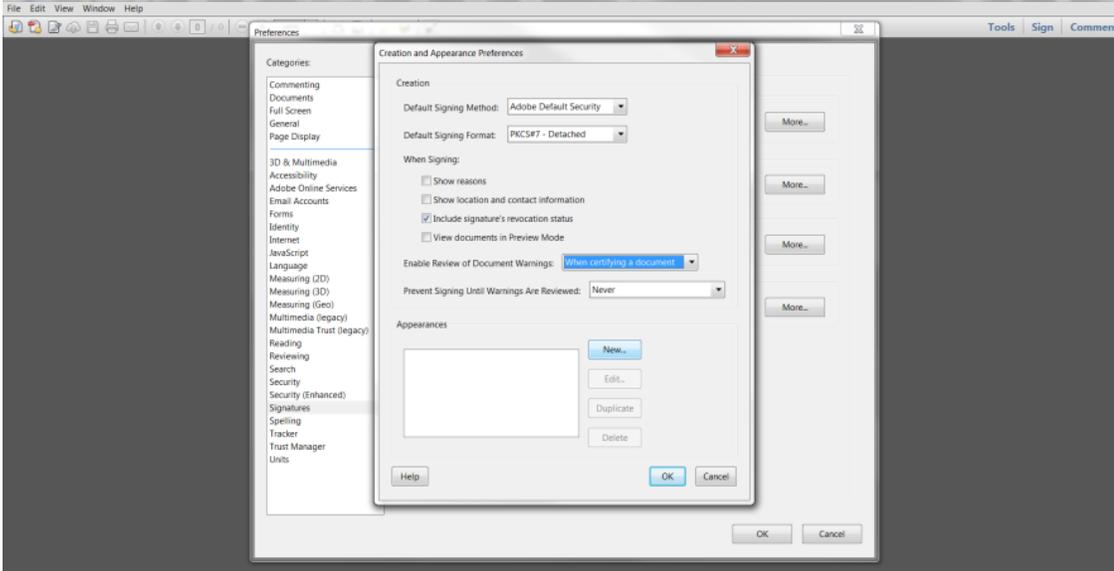
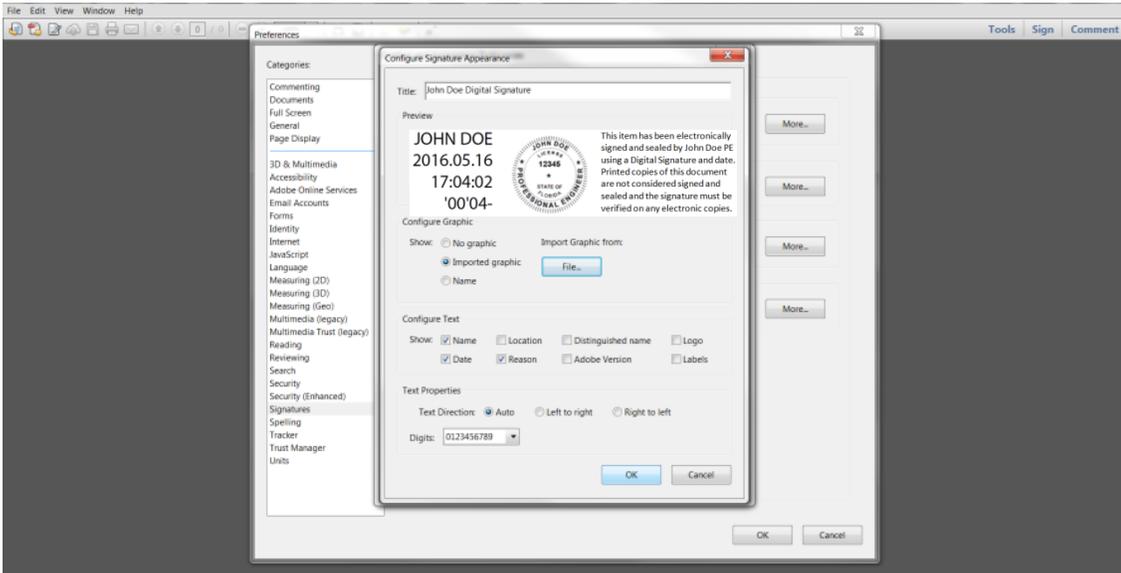**3) Type Title or Name of your new Signature, choose Imported Graphic, click File, then Browse**

4) Select the file location where you saved the scanned .pdf of your seal.

5) The seal will appear ready for import into the digital signature, click OK.

6) Verify your seal, Check only Name, Date, and uncheck the other six checkboxes, click OK.


Your Digital seal and signature combo is now ready to attach the Certificate Authority

Add the Certificate Authority (CA) Verification Certificate

Certificate Authority – As mentioned at the beginning you must have a third party company verify your identity via an added digital certificate. Each company will vary in the way they verify your identity and how you receive the digital certificate. Most will have you either download the certificate or send you the certificate on a smart card or usb drive to attach to the computer you will be using to sign with.

Add a Time Stamp Server to Adobe

Trusted timestamps are generated by trusted third parties and provide proof the digital signature was valid when the document was signed. Please verify your certificate to make sure that it has secured timestamp information embedded as shown in the screenshot below. If your certificate does not contain the timestamp field, please follow the instructions below the screenshot to set it up in Adobe.
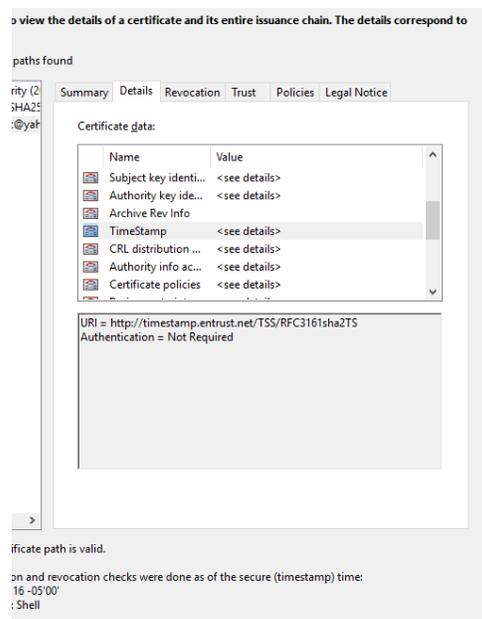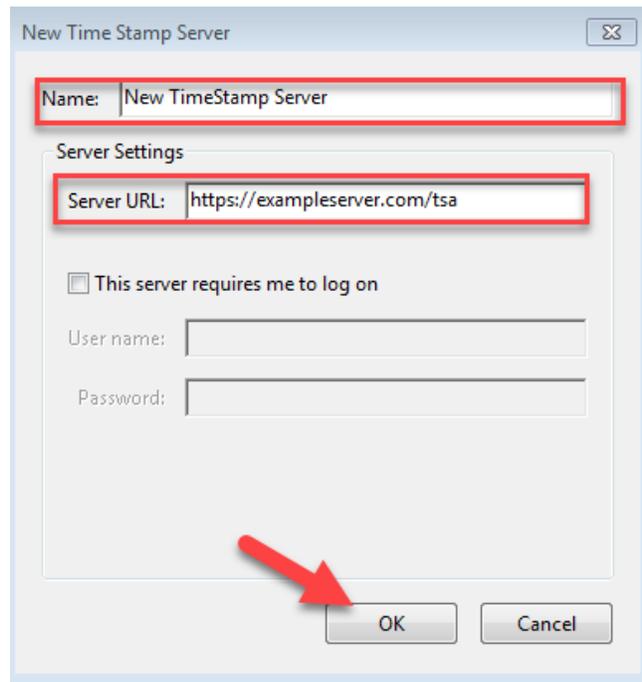

1) Open Adobe and click on Edit | Preferences.
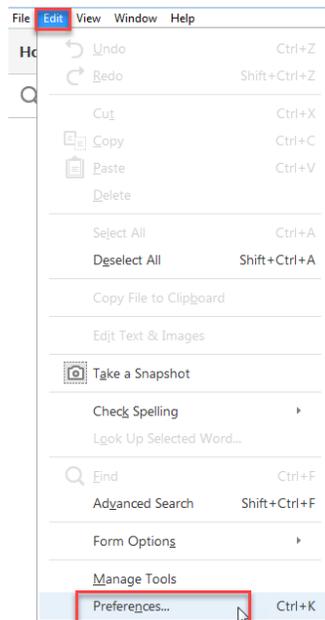
2) From the lefthand side menu, select "Signatures" and click on "More" under Document Timestamping.
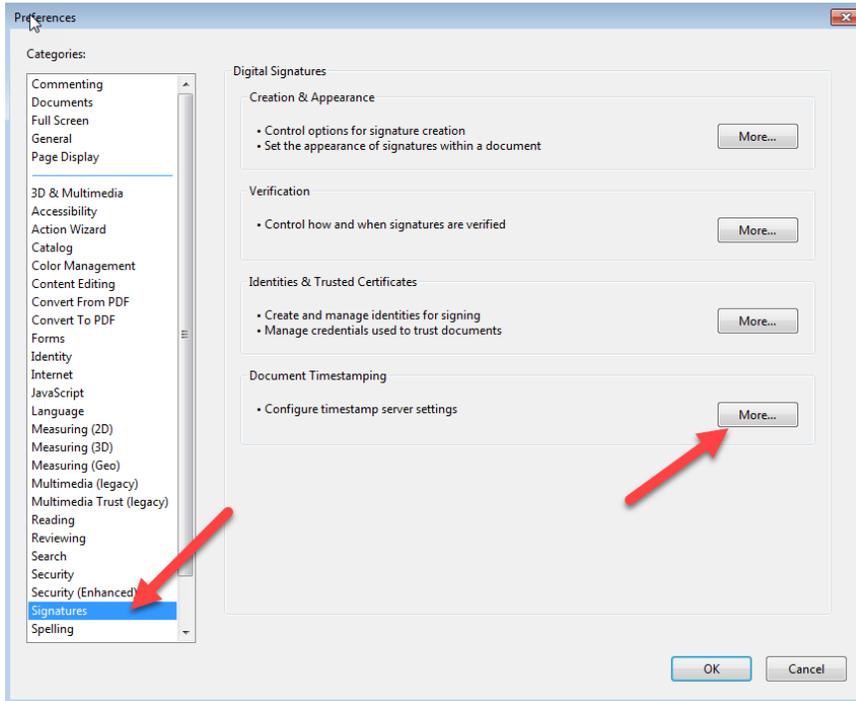
3) Click on "New" to add the new timestamp.
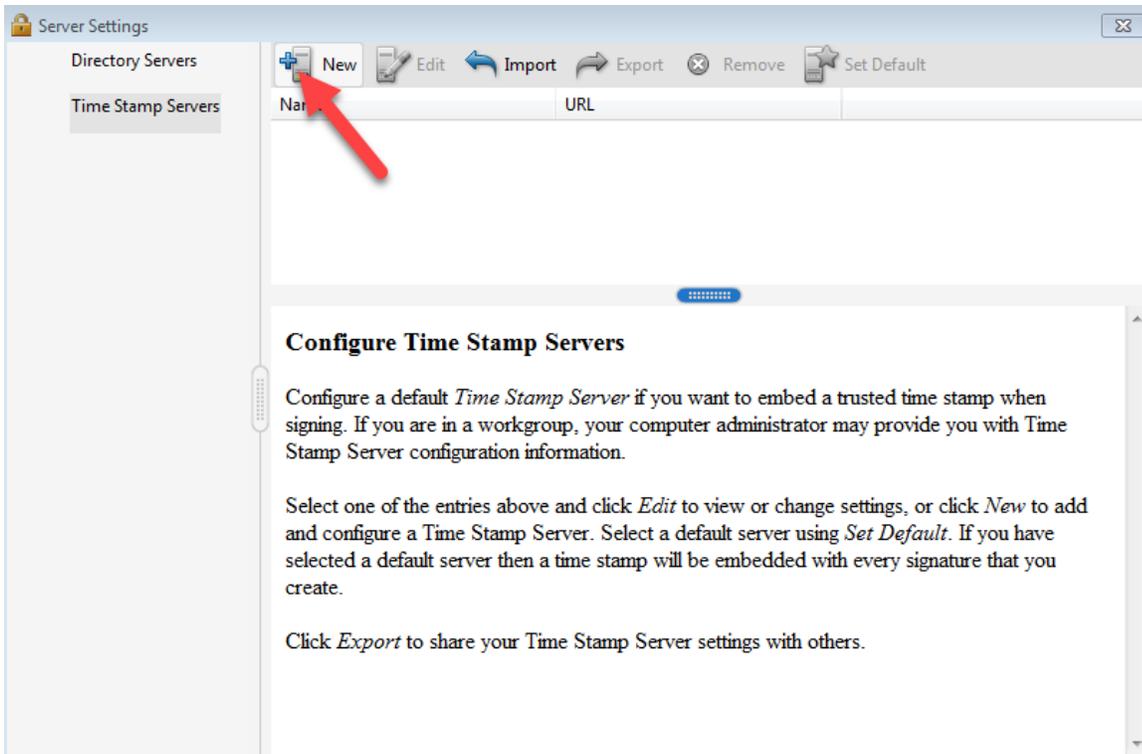
4) Enter the TimeStamp name and enter the server settings provided by the Certificate Authority. Please contact your Certificate Authority if you do not have the server URL. Click "OK".

While we cannot recommend which third party company to use we have narrowed down the list to some of the following companies that meet the requirements for signing construction plans and are already in use by other local Professional Engineers.

For Your Information – Links to websites

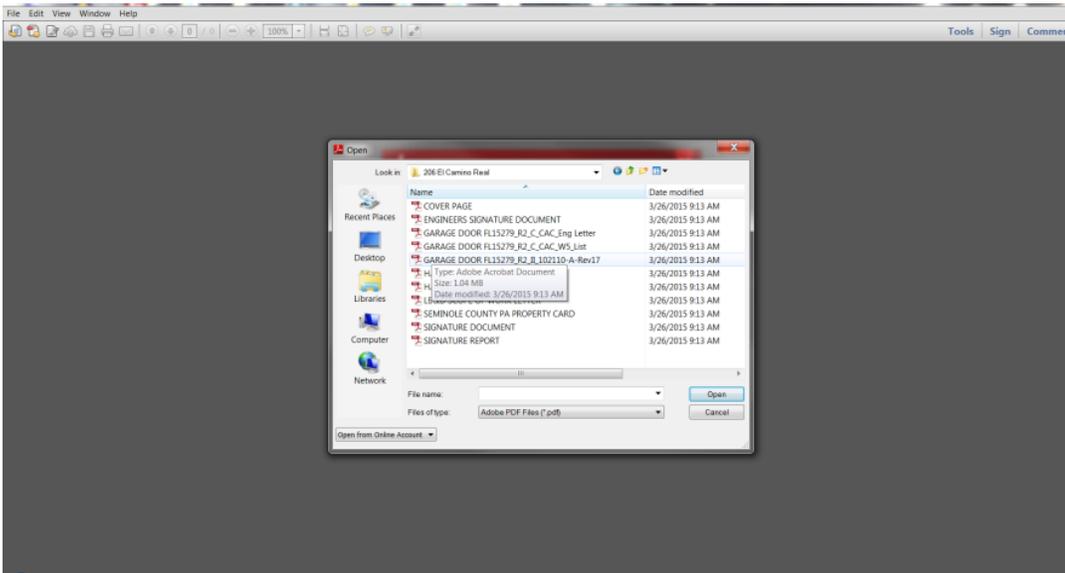Identrust – **http://identrust.com/fdot/**

Entrust - **https://www.entrust.com/document-signing-certificates/**

Globalsign – **https://www.globalsign.com/en/digital-signatures/**

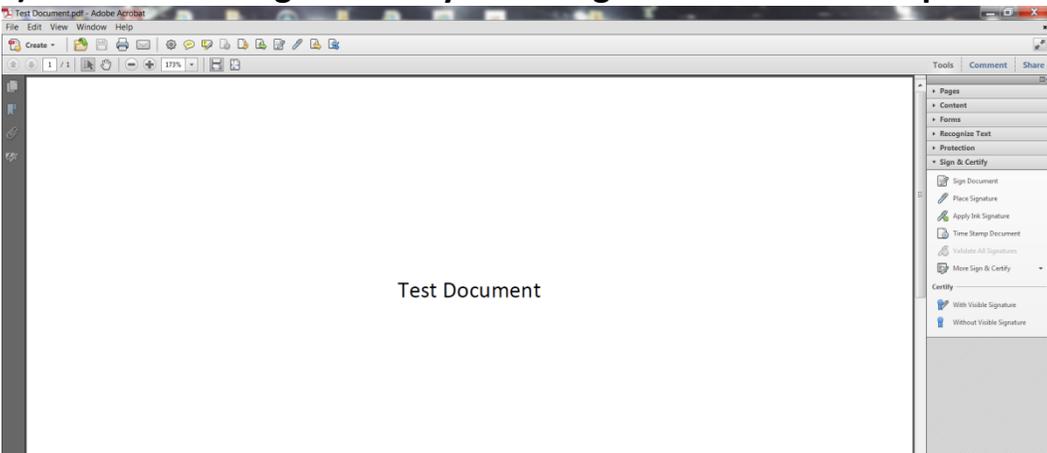DigiCert - **https://www.digicert.com/document-signing/**

Test your new Digital Signature
You will be using Adobe in most cases to sign your drawings

1) Open an old scrap PDF drawing or blank PDF paper to test on.
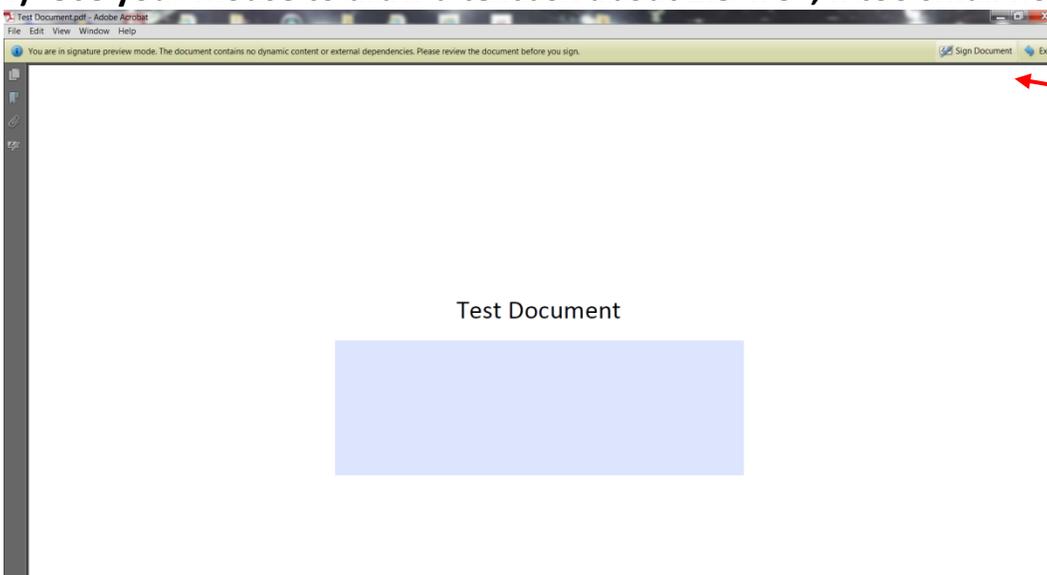

2) Select Tools>Sign & Certify>Place Signature from the Dropdown arrow> Place Signature
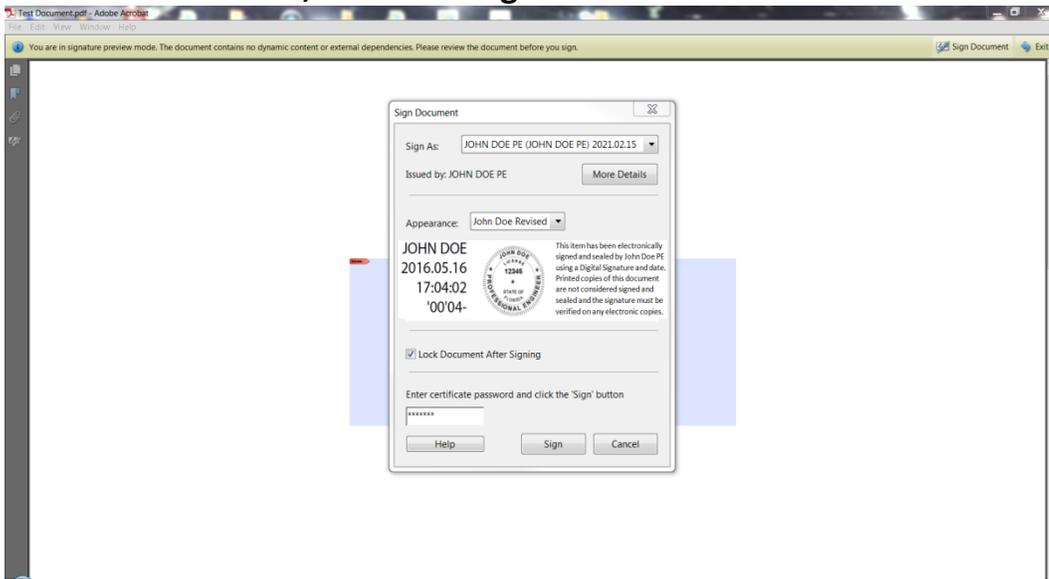

**3) Click the Sign Document button on the upper right of the Adobe screen.**

4) Use your mouse to draw a textbox about 2.5"x 5", if too small nothing will appear

5) Select the correct "Sign As" name (Your Digital ID) this will later become the 3rd Party CA
6) Select the correct "Appearance"(your New seal w/sentences), enter password, check the "Lock" checkbox, then click sign.

7) Save the newly signed document or drawing on your computer.
Your new digital Seal and Signature Combo with CA is now complete.
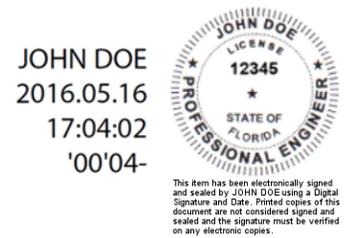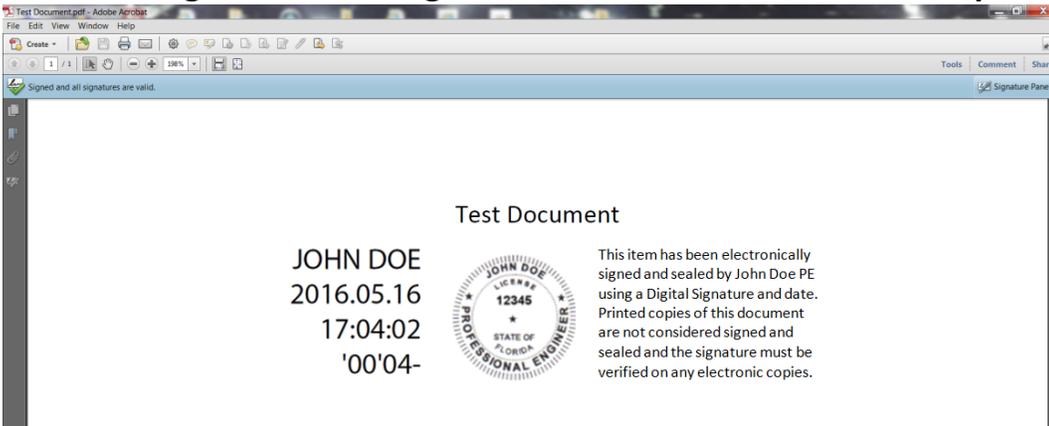
8) Validate your signature with a right click on your mouse.