



Guide to Creating Electronic Construction Documents

Revision 4.2

Introduction

Included here is information on submitting documents for construction permits by electronic method including signing and sealing. In the City of Clearwater, third-party verified digital signatures must be used by architects and engineers.

Creating Construction Documents for Permitting

Documents fall into one of three categories:

1. **Secure Signature Required** - Drawings, calculations, and specifications documents, in electronic format, prepared by Florida licensed architects and/or engineers are required to be signed and sealed with an encrypted electronic signature. The encrypted signature must be verified by a third-party.
2. **Notarized Signature Required** – Application forms, and any other document required to be notarized must be received as a scanned copy of the paper document that has been signed and notarized. The applicant should keep the original paper documents on file.
3. **No Signature Required** – Cut sheets, product approval documents, shop drawings, pictures and other supporting information.

All documents should be submitted in PDF format.

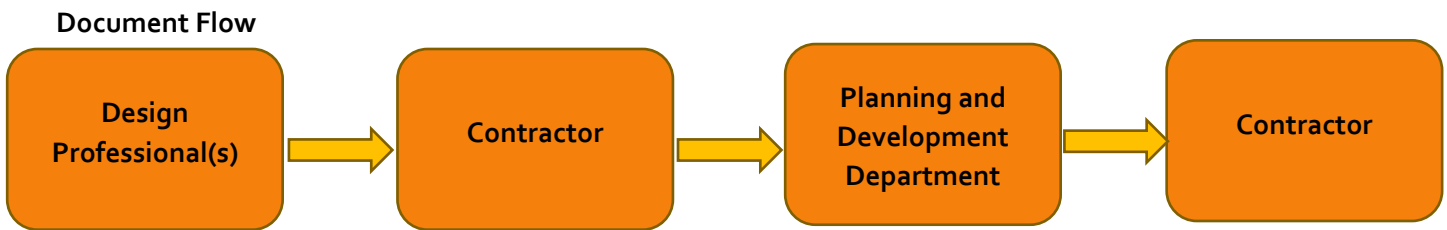
Electronic construction documents will be uploaded into the application using our online permitting system at <https://epermit.myclearwater.com>. Take great care not to alter any document signed with an encrypted signature, because any alteration will void the document signature.

The applicant should assemble the following documents:

1. Drawing documents may be created by the contractor, or come from **one** or more sources. All of the drawings required to describe the proposed work must be collected into one multiple-page bookmarked PDF file per discipline for submittal with the permit application. Make sure that drawings prepared by an architect or engineer are properly signed with a third-party verified digital signature. Any alteration of the electronic document made after the document was electronically signed could void the signature.
2. Support Documents-

Support documents including specifications, calculations, photographs, forms, Florida product approvals, and other documents must be converted to an electronic PDF format with file names that clearly describe what the document is.

When a document is in a paper format, it must be scanned and saved as a multiple-page PDF file. Small size documents can be scanned with a desktop scanner. Larger documents may need to be scanned by a third-party service available from companies that offer blueprint services.



Technology Requirements

Applicants will need basic hardware, software, and internet service to create and assemble documents for permitting.

Hardware

1. Computer
2. Internet connection
3. Scanner

Software

1. PDF Management (Convert drawings to PDF format, add bookmarks, and digitally sign documents)
2. E-mail

Internet

1. Internet service
2. E-mail exchange
3. Third party signature verification provider: This process is a premium service purchased by the user. When the plans examiner opens the electronic document the PDF management software will access the third-party verification database via the internet and authenticate the signature. If the document has been modified since it was electronically signed, the verification process will invalidate the signature file. The document would need to be replaced with new document that has not been altered.

Formatting Documents

Electronic construction documents can be created by any software as long as the documents produced can be saved in a multiple-page PDF file that will be opened by the Planning and Development department.

When drawings and other documents are required to be signed and sealed by a single design professional it is important to keep those documents together as one multiple-page PDF document.

Many commercial projects are designed by multiple design professionals. In this case, each individual design document set would need to be compiled and bookmarked into one multiple-page PDF file per discipline.

Sample list of disciplines to be bookmarked:

1. Civil/Site
2. Architectural
3. Structural
4. Plumbing
5. Mechanical
6. Electrical
7. Fire Sprinkler
8. Fire Alarm
9. Structural Calculations
10. Energy Calculations
11. Product Approvals
12. Specification Cut-sheets

AutoCAD to PDF

All drawings must be submitted as PDF files. Print/plot from AutoCAD to PDF. The drawing needs to be “printed/plotted” to PDF using “Adobe PDF” printer /plotter or “MicrosoftPrint to PDF” printer/plotter.”

The option to export as PDF cannot be used. Exporting creates unwanted annotations/comments in the PDF file. SHX text elements in the PDF file are not compatible with our plan review software.

File Names

Due to limitation in our plan review software, please:

- Limit file name size to less than 100 characters (including spaces).
- Do not use quotes or single quotes in the file name.

Bookmarking Documents

Bookmark must include page number (i.e. E-2) and page description as shown in this example.

The screenshot shows a 'Bookmarks' window on the left with a list of documents. The 'E-2 Power Plan 1st Level' bookmark is highlighted. On the right, a drawing title block contains the following information:

PERMIT SET	POWER PLAN-1st LEVEL
PROJECT NAME	COMPANY NAME, INC 100 S Myrtle Ave CLEARWATER, FLORIDA
ISSUED FOR	
PROJECT NUMBER	123456
DATE	01.02.17
DRAWING NUMBER	E-2

Red arrows indicate the mapping from the bookmark text to the title block fields. A red box highlights the 'E-2' drawing number.

CONFIDENTIALITY NOTICE: The information contained in this drawing may constitute confidential information. If you are not the intended recipient, c

Digital Signatures by Architects and Engineers

For the purpose of obtaining a construction permit with electronic or digital documents, in the City of Clearwater, third-party verified digital signatures must be used by architects and engineers. A digital signature is not a substitute for a notarized signature when required by statute or rule, such as the contractor's or owner's signature on a permit application or notice of commencement.

Seals and signatures are used by State of Florida licensed architects and engineers to identify authentic documents. An electronic or digital signature serves the same purpose as wet seals and embossed seals. An electronic or digital signature is an approved method of authenticating a document as long as it complies with applicable rules.

Currently, architects and engineers must comply the respective licensing board's rule and with Florida Statute (FS) 668 when using an electronic signature. The statute requires that an electronic signature be unique to the signee, be under the control of the signee, be created using an "asymmetric cryptosystem", and be recognizable through the use of a process called "Key pair" technology.

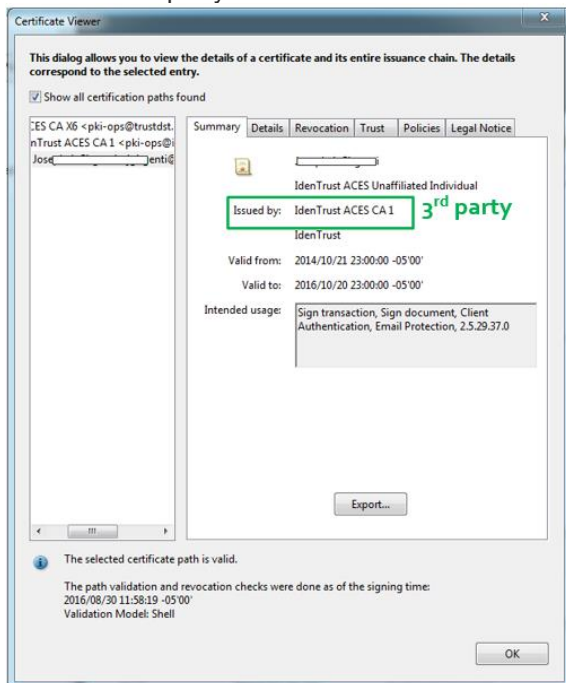
As mentioned earlier, when the requirements of FS 668 are met, both the signee and the recipient can be assured of the authenticity and integrity of the electronic signature. An electronic signature is verified by a third-party and cannot be copied or used by anyone except the signee.

An important feature of an electronic signature is that it can be verified as authentic when it is attached to an electronic file in a PDF format. An electronic signature on a printed copy of an electronic document cannot be verified as authentic, and is not valid as a permit submittal. Electronic documents bearing an electronic signature may be printed for use in the field only after the jurisdiction has electronically stamped and secured the document.

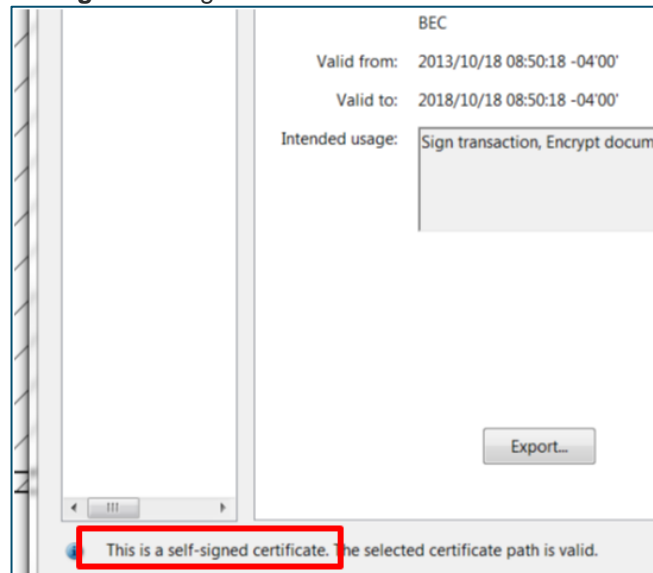
Third-Party Verified Signatures

The City of Clearwater no longer accepts self-signed Digital Signatures. Only third-party verified signatures are accepted:

Correct – 3rd party verified



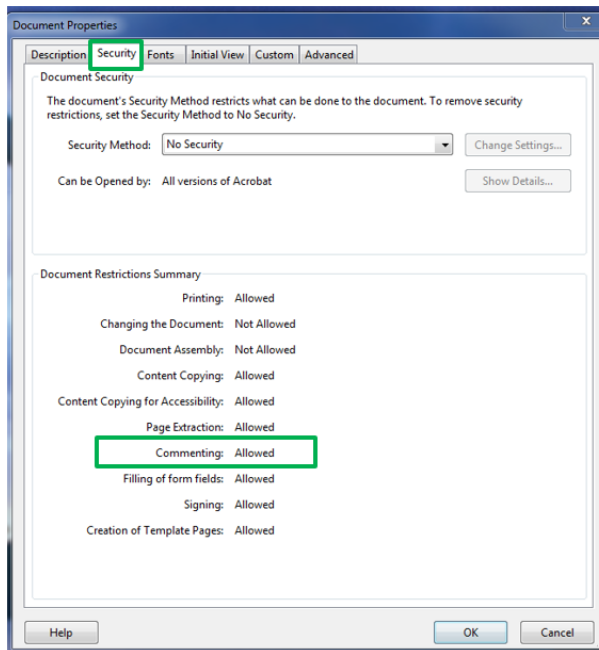
Wrong – Self Signed



The City of Clearwater does not endorse any of the companies listed in this link. This is just a helpful tool in your process of obtaining third-party verified signatures <http://www.fdot.gov/it/ApprovedDigitalCertificateAuthorities.shtm>

Document Security Settings

During the sealing process, you must choose the option that allows for annotation or adding comments to the document. By doing this, it allows our plans examiners to open, review, make comments and add approval stamps to the sealed document.



File Transfer Methods

Digital documents will be delivered using any of the following methods:

1. By electronic file transfer via the internet at <https://epermit.myclearwater.com>
2. For permit types that are not yet available online, submittals are currently being accepted via departmental staff.

Response to Comments – Resubmittals

When responding to plan review comments, submit design changes on a complete resubmitted package of all drawings. Unlike paper submittals where response sheets are submitted and replaced in the application set, electronic submittal requires the full PDF file to be resubmitted. Resubmittals must also be signed and sealed same as original submittal and verified by third party.

Plan Amendments

Any changes to the job **after** the permit has been issued is considered a Plan Amendment. At this time, Plan Amendments must be created by City staff.

If your permit was originally submitted online and there are changes to the job, please complete this amendment application <http://www.myclearwater.com/home/showdocument?id=2757> and email it to Barbara.Johnson@MyClearwater.com.

You will be notified once the amendment has been created so that you can upload the amendment documents.

Electronic signatures used by Architects and Engineers shall comply with the "Electronic Signature Act of 1996 (ss.668)." The legislature's intent in creating this legislation is to:

- 1) Facilitate economic development and efficient delivery of government services by means of reliable electronic messages.
- 2) Enhance public confidence in the use of electronic signatures.
- 3) Minimize the incidence of forged electronic signatures and fraud in electronic commerce.
- 4) Foster the development of electronic commerce through the use of electronic signatures to lend authenticity and integrity to writings in any electronic medium.
- 5) Assure that proper management oversight and accountability are maintained for agency-conducted electronic commerce.

Terms defined in the 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" 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.

Unless otherwise provided by law, an electronic signature, may be used to sign a writing, and shall have the same force and effect as a written signature.

The head of each agency shall be responsible for adopting and implementing control processes and procedures to ensure adequate integrity, security, confidentiality, and audit ability of business transactions conducted using electronic commerce, as per Architect's rule 61G1-16.005 and Engineer's rule 61G15-23.005.

References

This document has been created based on:

- The Am. Inst. Of Architects, *AIA Florida, A Chapter of the American Institute of Architects*, [aiafla.org](http://www.aiafla.org), http://www.aiafla.org/upload_documents/Design_Professionals_Guide_to_Creating_and_Processing_Electronic_Documents_v1.pdf; http://www.aiafla.org/upload_documents/BuildingDepartmentGuidetoCreatingandProcessingElectronicDocuments.pdf; (Last visited March 23, 2017).
- The Bracken Engineering, [brackenengineering.com](http://www.brackenengineering.com), <http://www.brackenengineering.com/Portals/0/Reference%20Materials/BOAF%20Guide%20-%20Creating%20and%20Processing%20Electronic%20Documents%20-%20Contractors.pdf>, (Last visited March 24, 2017).
- The Fla. Eng'g Soc'y, *Engineering. It's Practically Amazing!*

And:

1. <https://www.flrules.org/gateway/ruleNo.asp?id=61G1-16.005>
2. <https://www.flrules.org/gateway/ruleNo.asp?id=61G15-23.005>

Revision History

Revision	Updated by	Date	Description
1.0	awilhelm	2017-03-24	Initial document.
2.0	awilhelm	2017-07-12	Added Bookmarking Documents and Plan Amendment sections; updated second paragraph in Formatting Document section.
3.0	awilhelm	2017-08-22	Moved Florida Statutes section; added Response to Comments section; reformatted document to 7 total pages.
4.0	awilhelm	2017-10-05	Added AutoCAD to PDF section.
4.1	awilhelm	2017-10-17	Updated first paragraph on page 2; updated Formatting Documents.
4.2	Awilhelm	2017-10;19	Added File Names section.