Introduction and Overview

In order to properly use professional seals in Pennsylvania, licensed design professionals are required to be familiar with specific practice laws and regulations. The law is contained in a collection of Acts known as the Pennsylvania Consolidated Statutes. The Pennsylvania Consolidated Statutes are subdivided into Titles, Chapters, and Sections. The primary statute in which we have interest, i.e., that deals with sealing and certification, is contained in Title 63, Professions and Occupations and the following specific Chapters:

1. Chapter 2A, Architects Licensure Law;
2. Chapter 5, Engineer, Land Surveyor and Geologists Registration Law;
3. Chapter 23, Landscape Architects' Registration Law

A collection of regulations known as the Pennsylvania Code (P.C.) adds detail, and is intended to implement the Pennsylvania statute Chapters listed above. Of interest to us is Title 49, Part 1, Subpart A and the following implementing P.C. Chapters:

1. Chapter 9, State Architects Licensure Board
2. Chapter 15, State Board of Landscape Architects
3. Chapter 37, State Registration Board for Professional Engineers, Land Surveyors and Geologists.
Laws in the Pennsylvania Consolidated Statutes are also often referred to as Acts. Regulations contained in the Pennsylvania Code are often referred to as Rules. In the interest of brevity, and to reduce clutter within the body of the course content, no further literal enumeration will be made to the various Statute and Code sections; only reference numbers will be used.

The technical design professions are regulated by the respective Pennsylvania Boards of Examiners and Registration. Before the advent of the World Wide Web, the respective Boards utilized mailed periodicals to officially disseminate information related to the regulated professions. Official information is now periodically published over the Internet through Board newsletters. This information may include statutory requirements, statutory changes, Rules, Rule changes, proposed or pending Rule changes, licensing requirements, license renewal procedures, Board action, Board interpretative rulings or guidelines, disciplinary action, and ethical or professional standards.

This course is an integration of the relevant sections of several Pennsylvania laws and several past Board newsletters that pertain to the use of professional seals. The course is not intended as a replacement or substitution for official information sources that provide understanding of the laws, rules, and regulations governing the use of professional seals in Pennsylvania. Hopefully it provides a useful supplement that reflects common professional practice issues and concerns regarding their use. The applicable regulations are listed in the Reference Section; they supersede any information contained in this course.

Even though the technical design professions are regulated by separate Boards, the prescribed acceptable methods of professional seal use are relatively consistent among all of the Pennsylvania professions. There are, however, specific minor differences and these will be noted.

While every effort has been made to insure the accuracy and completeness of the information presented in this course, the reader is reminded that Acts and Rules are subject to periodic revision. Consequently, while the course’s base content is relatively constant, specifics are subject to variation. The reader of this course is strongly encouraged to periodically review the various regulations in order to stay informed. This is easily accomplished because the required information and the regulating Boards are readily accessible on the World Wide Web; a listing, with URLs, is provided in the Additional Resources section. Nothing herein has the force of law or the intention to force any licensed professional to comply with the content.
History

The word “seal” stems from the act of closing. Originally, this was the closing, or securing if you will, of a document for the purpose of security and privacy. While the original sealing methods of old could not prevent unauthorized access, an unbroken seal did at least give the intended recipient of the document an indication of its security. Over time, the seal evolved into a representation of indisputable authenticity, just as a signature is accepted in the world today. The emperor of China used his thumb print when sealing documents in 3000 B.C. The use of seals is mentioned in the Old Testament, where Jezebel used Ahab's seal to counterfeit important documents. Royalty and governments used their own seal to affix to proclamations to give them their authoritative stamp of approval. The first Great Seal of England was that of Edward the Confessor, impressions of which can still be found. During this time, almost everyone had their own seal. While most people had just one, royalty would own several, including their "Great" seal, as well as seals for all their courts and officials. It was common practice to destroy the seal when the owner died, which is the reason so few original seals are still in existence today. Official seals of the Crown were often handed over with great ceremony, and in Medieval Times the size and motif of the seal conveyed an image of the status of its owner. Early motifs were equestrian or heraldic in nature, or showed the owner in various pursuits like hunting or doing battle. William the Conqueror used an equestrian seal showing him armed and ready for battle. In Medieval Times, betrothals were prearranged; therefore true words of love were secretly written and the envelope's contents secured by a wax seal, so that the recipient could be assured that their passion would be unknown to others.
Background of the Seal in the U.S.

The first Seal of the United States was created by Benjamin Franklin, John Adams and Thomas Jefferson in July 1776, soon after the Declaration of Independence was signed. Congress realized the necessity of such a seal for the newly established nation. Seals were used less frequently as literacy increased. With the introduction of the gummed envelope in the 19th Century, the need for privacy was reduced. Seals became a more personal expression as well as a decorative embellishment. Today, seals serve functionally as well as symbolically. Seals represent the President, Federal agencies, States, State agencies, corporations, and notaries, to name barely a few.

The necessity for professional seals springs directly from laws regulating the practice of the various professions. The State of Wyoming was the first to enact an engineering registration law in 1907 and was ironically, the last State, in 1951, to enact a law regulating the practice of Architecture. By 1952 all the States and territories had adopted licensing laws of some description regarding the primary technical design professions. Pennsylvania's architectural registration law dates back to 1919 and the engineering licensure law was enacted in 1921. The Landscape Architecture practice law can into existence in 1966. In 1992 the engineering and land surveying Act was amended to provide for the regulation of the profession of geology.

Professional Practice Overlap

Pennsylvania building code officials and other regulatory agency personnel, as well as the licensees themselves, are sometimes confused as to the differences between how and when, and in what manner, the professions are allowed to use their seals. A frequent professional conduct violation concerns sealing improprieties. Sealing improprieties sometimes stem from the fact that there exists areas of overlap or common practice among the professions of Architecture, Engineering, Surveying, Geology, and Landscape Architecture. Setting aside any nefarious activity, one of the leading forms of impropriety occurs when the licensee incorrectly affixes a seal to work for which the licensee is not privileged to undertake. In order to fully appreciate the problems that can arise from the use of the various professional seals, it is important to allocate ample study coverage of these areas of practice overlap.
Let’s utilize set theory to diagrammatically examine the scope and purview of the professions. Look at the figure below. Each circle is intended to graphically represent the total practice scope of each profession. The overlapping areas of the five professional practices (sets) represent the legally implied, and generally accepted, common practice areas. You may recall that in set theory these common areas are known as intersections. We will address each one of these intersections individually as we progress through the course.

While the relative sizes of the sets shown above have no meaningful significance, the actual number of Pennsylvania licensed Architects and Engineers indeed far exceeds those of the other licensed design professions. For example, there are ten times more Professional Engineers than Professional Land Surveyors.

To begin this examination of technical overlap and common practice, let’s explore the intersection of Architecture and Engineering.
Comparing Apples to Oranges or Comparing Apples to Pears?

Everyone knows the difference between the practice of architecture and the practice of engineering, right? Well obviously not. A broad range of viewpoints exists among the various States and territorial jurisdictions with regard to this matter. Any analysis that examines the actions of various courts and code enforcement officials quickly reveals a difference in what is interpreted as allowable legal practice between the two. Individual State-to-State statutory definitions range, on one end, with little or no distinction between the two professions, to the extreme of an apparent monopoly of professional authority being granted to one or the other. Pennsylvania case law has set-out limited legal specifics in defining the practice bounds of the two professions.

That a difference exists between Architecture and Engineering is not an issue; the precise difference is sometimes, however, nebulous. It is generally held that Architecture is the profession of designing buildings for human habitation and occupancy; Engineering, among a multitude of additional activities, is the profession of designing structures, to include buildings, and the various elements of utility that comprise the structure and make it functional. Although overly simplistic, Architecture is often discriminated from Engineering through the emphasis of interior and exterior aesthetics, and form and function with regards to occupancy and use. Key phrases often used in the practice description of Architecture are: use, order, and beauty through the resource of design and the call for artistic and technical ability.

While it is certainly not the purpose or intent of this course to engage in the detailed study of Pennsylvania case law, it would be disingenuous to ignore a relatively recent case that provides legal precedent for the subject at hand. The architecture and engineering statutes may be limited with regard to specifics for the practice bounds of the two professions, but a 2000 appeals Commonwealth Court case in particular provides certain enlightenment. Rosen v. State Architects Licensure Board brings to the front several clarifications and legal revelations regarding the
intersection or overlap of architecture and engineering.

Briefly and in summary, the *Rosen* case concerned a client who initially solicited a project proposal from a registered architect to provide professional services associated with the renovation of a Philadelphia building. Finding the proposal unacceptable (too expensive), the client ultimately engaged a licensed professional engineer to provide the required design services to secure a building permit. The architect filed a compliant stating that the retained professional engineer illegally engaged in the practice of architecture as a result of his involvement in the project.

Following is the author's condensation of pertinent aspects of *Rosen* that are relevant to our discussion of the practice bounds of these two Pennsylvania design professions:

First and foremost is the fact that it was concluded that each of the two practice statutes explicitly recognize that there is indeed an overlap of the professions, and neither statute establishes a clear, mutually exclusive delineation between the two. Presented was the fact that complication arises because both statutes allow reciprocal limited, incidental, practice. (Incidental practice will be addressed more fully momentarily). Ultimately it was found that because there existed overwhelming identical purpose in the two laws, that they must be construed together, and practically considered as one.

With regard to practice bounds, in *Rosen* it was understood that both Architects and Engineers are legally allowed to design public and private buildings and structures. By virtue of a limiting reference to the design and construction of structures whose principal purpose is for “human habitation or use” in the definition of the practice of architecture, it was successfully argued that the statutory definition of the practice of engineering was broader than that of the practice of architecture because no such limiting language existed in the engineering law.
Although not universally accepted across the technical community, the National Council of Architectural Registration Boards (NCARB) holds that Architects, by their education and internship, are the only design professionals properly prepared to coordinate all the design disciplines and manage the typical building project.⁵

**Land Surveying is defined as a Special Branch of Engineering**

The Commonwealth of Pennsylvania is somewhat unique in that the intersection or overlap of professional practice between Professional Engineers and Professional Land Surveyors is clearly delineated in law. Few States provide such legally specific bounds of practice. The foundation for demarcation springs from the fact that, in Pennsylvania, surveying is considered a specialized branch of engineering. The actual delineation is accomplished through the concept of the legally established term *Engineering Land Survey* that is defined as a collection of surveying activities that do not involve the establishment of property boundaries. The following legal excerpts summarize the practice bounds:

> A professional land surveyor may perform engineering land surveys but may not practice any other branch of engineering. A professional engineer may not practice land surveying unless licensed and registered as a professional land surveyor; however, a professional engineer may perform engineering land surveys.⁶

More information regarding engineering land surveys and who may legally conduct them will be provided later in the course.

**The Geologist and the Engineer**

Prior to the 1992 amendment to the engineering and land surveying Act, practicing geologists desiring licensure had to do so as a Professional Engineer. By any definition, a geologist is considered a scientist, not an engineer. Compared to the somewhat broad legal definition of the practice of engineering, the statutory definition of the practice of professional geology limits activities to the scientific investigation and evaluation of earth materials and geological factors. The current definition goes on to specifically prohibit the geologist from practicing professional engineering, land surveying, or landscape architecture.⁷
Somewhat complicating the foregoing, the specialized branch of civil engineering known as geotechnical engineering is routinely concerned with the evaluation of the physical, chemical, and mechanical properties of subsurface materials through investigation and exploration; consequently, substantial practice overlap can exist with the Professional Geologist and the Professional Engineer practicing geotechnical engineering.

The practice of professional geology is legally defined as including the prediction and location of natural and man-made hazardous phenomena. With heightened public environmental concern and resulting increased regulation, the practice realm of the professional geologist has melded with certain areas previously the domain of the Professional Engineer practicing in the environmental engineering field.

In summary, with the expansion of the practice of professional geology into the environmental field, Professional Engineers working in the geotechnical and environmental disciples routinely offer the same services that have become associated with the Professional Geologist. With that said, by law, an Engineer is not allowed to practice science that includes soil science, geology, physics, and chemistry.  

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**Incidental Practice Activities**

**Engineering Incidental to the Practice of Architecture (and vice versa)**

Incidental practice is defined as the act of conducting non-customary professional activities, which are minor or subordinate in nature, which support the primary, legally licensed practice activity. Incidental practice, which has limited occurrence, is a practical reality. As in many States, incidental practice is directly legally addressed in Pennsylvania law. From the licensure laws:

The [practice of engineering] shall not be deemed to include the practice of architecture as such, excepting only architectural work incidental to the practice of engineering. The [practice of architecture] shall not be deemed to include the practice of engineering as such, excepting only engineering work incidental to the practice of architecture.
Engineering Incidental to the Practice of Surveying

The concept of the *engineering land survey* was not fully developed during the earlier discussion of practice overlap. Pennsylvania Professional Land Surveyors are permitted to perform engineering land surveys. These surveys encompass the development of any tract of land including the incidental design of related improvements, such as line and grade extension of roads; sewers and grading; construction stake-out; and as-built plans. The legal definition of engineering land surveying also includes underground and hydrographic surveys; storm water management surveys; sedimentation and erosion control surveys; the determination of the quantities of materials; surveys for water percolation in soils; and the preparation of plans and specifications and estimates of proposed work and attendant costs for these surveys. As such, it is immediately apparent that Pennsylvania Professional Land Surveyors have a lot of latitude with regards to what would normally be considered to be strictly limited to the practice of civil engineering in other jurisdictions. The only limiting legal statement in regard to land surveyors performing these activities occurs with the exclusion that these engineering land surveys must not require independent engineering judgment. Independent engineering judgment is not specifically legally defined.

The Practice and the Incidental Practice of Landscape Architecture

While the practice of landscape architecture in the Commonwealth is in fact regulated as a practice Act and not just as a title Act, legal verbiage permits expansive incidental landscaping activities to both licensed and unlicensed entities. In fact, the single design professional not allowed to conduct landscape architecture endeavors is the Professional Geologist. Pertinent paraphrased excerpts are presented here:

[The Landscape Architecture practice] act shall not be construed to require licensure in the case of incidental landscape architectural service as is incidental to architectural, engineering, or land surveying services or the practice of planning by community and regional planners, or the practice of any nurseryman, landscape nurseryman, gardener or landscape gardener, general or landscape contractor as that practice pertains to planting
design and its incidental items. This includes practice by agriculturists, horticulturists, foresters, garden or land caretakers, home builders and graders, or cultivators of land.

While on the face of it, most anyone can legally involve themselves with landscaping, representing oneself as a Registered Landscape Architect or offering professional landscape architectural services is prohibited.\(^{13}\)

Like the Professional Land Surveyor, the Registered Landscape Architect is legally permitted to design the settings and approaches to structures and other circulation improvements; the shapes and contours of land and water forms; the setting of grades and determination of drainage; and the provisions of storm water management and determination of environmental impacts and problems of land including erosion and sedimentation, and other hazards. The Act goes on to state however that the practice of landscape architecture does not include the design of structures or facilities that are ordinarily included in the practice of engineering or architecture and does not include the making of land surveys.\(^{14}\)

**Sealing and Certification**

The purpose of certification of technical documents is to attest to the preparation of the documents by the licensee or under the licensee’s supervision and control. Merely reviewing the work prepared by an unlicensed or unregistered non-employee does not constitute *supervision and control*.

Although often used interchangeably, the terms sealing and certification are not synonymous. A seal is only one component of a legitimate certification. At a minimum, two additional components, a signature and a date, are also required. Examples of each design profession's seal are shown below.\(^{15}\)
Architects

The prescribed design of the seal is indicated below. While no specific legal reference to size is apparent, commercially available seals are found to range in size from 1 ⅝ to 2 inches in diameter. The signature and date must be applied near or across the seal, but not in a location that obscures the license number. An example follows:

The architecture practice law allows, with special considerations, licensed architectural firms to utilize a professional seal that combines the firm's licensed individuals. While no specific legal seal design is offered, it can be speculated that a hypothetical architectural firm group seal might appear similar to:

The graphical representation above incorporates the statutory requirement that all of the licensees
names and registration numbers be shown and that the legend “ARCHITECTS” be present. It should be noted that use of a combination seal representing the firm's members is allowed only if all of the members are individually licensed. A cautionary legal passage reminds Commonwealth architects that use of a group or combination seal does not relieve individual licensees of the personal responsibilities required by the practice Act and Rule.

Is an Architect Licensed, Registered, or Certified? Answer: Yes

Briefly, and to the point: the specified official seal legend is Registered Architect notwithstanding the fact that the practice Act, as well as the Regulations, emphasize license or licensure when referring to individual practitioners who have been granted a license to practice architecture by the State Board of Architectural Examiners. With that stated, throughout the existing regulations the terms registration and licensure are frequently used interchangeably. The nomenclature registration more accurately refers to architectural firms, who by legal requirement, have registered or applied for registration to conduct business in the Commonwealth. The term certification is associated with the certification process administered by the National Council of Architectural Registration Boards (NCARB).

Professional Engineers, Geologists, and Land Surveyors

A common seal design exists for the Engineer, Surveyor, and Geologist, with only the text content differing. The outside diameter of the seal is 1¾ inches. The signature and date must be applied near or across the seal, but not in a location that obscures the license number. Seal designs are shown below:
An outer diameter as small as 1½ inches is allowed when a *pocket* seal (explained later) is employed.

**Landscape Architects**

The seal design for the Professional Landscape Architect is unique. The Board specified seal design is shown below:

![Landscape Architect Seal](image)

**Understood Proper Use of the Professional Seals**

We have touched on the subject of the proper and allowed use of seals in our discussion of practice overlap and incidental activities. While there is sparse legal verbiage specifically defining the practice scope of the four design professions, the need for the licensed professional to limit activities to those areas of self-evaluated professional competency can be inferred from legal references. One such legal passage is:

> [A registered professional] shall not attempt to practice in any field of engineering, land surveying or geology in which the registrant is not proficient and shall not permit the use of his professional seal on work over which he was not in responsible charge.

In particular, one Commonwealth publication establishes a specific prescribed drawing sheet nomenclature consisting of prefixes of “A” for architectural drawings, “P” for plumbing drawings, “E” for electrical drawings, and so forth, and goes on to state:

> The Architect's Seal must appear on the architectural drawings and the Engineer's Seal must appear on the engineering drawings, etc.
Facsimile Signatures

Facsimile signatures placed on original documents are prohibited. The term facsimile signature should not be confused with the signature produced by the transmission of a scanned document containing an original signature, *i.e.*, “faxed”. A facsimile signature is one graphically produced by computer, or by a stamp, or otherwise not directly by hand.

Certificate of Authorization Seal/Corporate Seals

The business firm practice of architecture, engineering, land surveying, geology, and landscape architecture is allowed as long as the compositional make-up of the business entity meets the requirements specified in the respective Acts. With the exception of the architectural profession, business entities are not eligible for registration under the respective professional practice laws; they are intended for individual practitioners. Unlike some States, the application of a certificate of authorization seal or a professional corporate seal on technical documents filed for public record is not required in Pennsylvania. For this reason, business conduct or the actual details of the registration of a business entity will not be covered here. Mention has already been made regarding the use of an architectural firm group seal.

Drawing Classifications

Construction documents are usually composed of working drawings, specifications, and occasionally other contract documents such as Shop Drawings and Standard Design Plans. A working drawing, or design drawing, is characterized by the exhibition of a total result achieved by the integration of various elements and systems; they are prepared under the supervisory control of the licensed design professional.
Shop Drawings

Shop drawings are limited in nature and are characterized by the indication of fabrication and/or installation details of a larger system's components. They derive their name from the fact they were originally prepared by shop personnel in the employ of a contractor. Today, shop drawings are prepared by original equipment manufacturers, contractors or their subcontractors, or other specialists, such as fabricators, that are not under professional licensee supervisory control. They should be reviewed by the Pennsylvania licensed professional responsible for the project in which they form a part. While shop drawings are generally considered exempt from the licensing laws, if the practice of a design profession as defined in the various Acts is performed during the course of their preparation, then the design professional responsible for their preparation must certify them.

Standard Design Plans

Standard Design Plans are those documents associated with buildings, structures, or electrical and mechanical installations that graphically depict items of a typical nature that do not require or represent special features unique to the design to which they will be incorporated or appended. The various Acts do not specifically address the certification of standard design plans. It logically follows that if the practice of a design profession as defined in the various Acts is performed during the course of preparation of standard design plans, then the design professional responsible for their preparation must certify them.

Where Should Seals be Placed?

The sealing rules apply to each sheet of final engineering drawings and survey plats. Architects and Landscape Architects are directed to seal, sign, and date the first sheet of bound sets of drawings (with an index of drawings included); the title page of specifications; and unbound single sheet drawings and other pertinent contract documents.15
Assignment of Professional Responsibility

It is common for technical submissions and engineering documents to contain drawings prepared by several professionals. The drawings must be certified by all of the professionals responsible for the preparation of the documents. Therefore, one technical submissions package may contain drawings that bear the seal and certification of more than one licensed professional. Contributing professionals should place their respective certifications on the first page of the document, or alternatively, on the first page of the identifiable portion or section of the document that was prepared or directed and controlled by them. If necessary, notations can be used to describe the work done under each license holder's responsible charge.

Qualified and Unique Certifications

Unfortunately, in a complex world, simple straightforward sealing and certification is not always possible. Qualified certifications exist in order to make allowances for these situations.

Professional Land Surveyor Certifications

Unlike most States, Pennsylvania law does not provide legally defined minimum acceptable standards for the practice of land surveying. To fill this gap, the Pennsylvania Society of Surveyors publishes The Manual of Practice for Professional Land Surveyors in the Commonwealth of Pennsylvania that provides nonbinding guidelines. The manual does not attempt to offer guidance on correct professional seal use. It does, however, advance through annotated commentary, suggestions for generally accepted minimum additional certification statements that may accompany the seal impression.

Pennsylvania counties and municipalities may, and often do, impose special certification requirements. Professional Land Surveyors should periodically review these local laws carefully for possible changing certification requirements for recordation plats. These certifications can require statements regarding the adherence to a specific subdivision ordinance, or to the existence of encroachments or easements, and additional statements regarding the accuracy of the survey, the resulting plat, or both. As an example, a limited portion of a plat for a hypothetical land title survey might look something like:
Special Certifications Required from Architects and Engineers

State agencies or local jurisdictions can require specialized certifications with projects that potentially impact the public's safety, health, welfare, and property. One of many such additional certifications is shown on page 19. This example certification is a hypothetical one that might typically be required by a municipal or county building inspection department:
Review the form carefully to ensure all the information is accurate. Your signature is required to certify that the information provided is true and correct. Once completed, the form should be submitted to the appropriate authority for approval. Always consult the laws and regulations specific to your area for the proper procedures and requirements for obtaining a construction permit.
The Use of non-Pennsylvania Seals

The use of other than Pennsylvania Commonwealth professional seals is strictly limited. With the exception of architecture, there are restrictive provisions in the various statues for short-term or temporary practice by unlicensed Commonwealth design professionals whereby the temporary licensee's oversigned foreign professional seal is allowed. Temporary practice is limited to a period not exceeding thirty days, in aggregate, in a calendar year. Special practice requirements include the accompaniment of a copy of the board issued temporary practice permit with the submission of project documents.

The architectural practice Act is silent with regard to temporary practice.
**Document Distribution and Control**

Simple, straight forward, single-event sealing and certification is not always possible in real world business conditions. Special consideration must be given to these situations.

**Interim or Preliminary Documents**

Documents or copies of documents that are beyond the confines of a design professional’s office, or, otherwise out of his possession and control, are defined as *released*. Released documents can only fall into two categories: (1) Preliminary (or incomplete), and (2) Final. Work that is preliminary or incomplete must be designated as such. This makes sense when one contemplates the following logic:

> The technical professions are licensed to protect the public. The sole purpose of the sealing exercise is to certify that plans and technical documents have been prepared by, or with the oversight of, a licensed professional. However, the general public cannot, and should not, be expected to apprise itself of the legal nuances associated with sealing requirements. Consequently, it logically follows that preliminary or incomplete documents should be clearly and conspicuously so noted to remove any chance of misunderstanding.

The various practice regulations do not specifically address the certification of preliminary documents. The engineering board has directed at least one registrant not to sign or seal incomplete, preliminary, or interim documents.¹⁹ Even so, most Pennsylvania jurisdictions require that plans submitted to local permitting agencies for preliminary review be certified by a licensed design professional, notwithstanding the fact that subsequent plan modification after review may be necessary.

It would seem prudent that interim, preliminary, or otherwise incomplete documents that are released be clearly labeled “PRELIMINARY”, “FOR REVIEW ONLY”, “NOT FOR CONSTRUCTION”, or any suitable statement that denotes that the documents are incomplete.
Change Orders, Field Changes, and Addenda

Design and scope changes are inevitable during the normal course of a project’s development. Change orders, field change requests, responses to requests for information (RFIs), and other addenda are considered as technical documents. As such, they warrant certification. It is the responsibility of the licensee to forward copies of all revisions to technical and engineering documents, which shall become a part of the official copy of the submissions. These revisions must be identified as applicable with professional seals applied so as to clearly establish professional responsibility for the revisions.

Physical Seal Forms

History

The means of producing professional seals has undergone quite an evolutionary development. The first devices deformed the paper of the document through impression of the seal by embossing. Because of their construction they are often referred to as metal seals. Physically smaller versions are called pocket seals due to their portability. The positive tactile response generated by the raised embossment provides the indisputable verification of certification authenticity. Unfortunately they are not highly visible and are difficult to reproduce photostatically. The very construction of most embossing seals limit the placement of the seal near the edges of a given document.

Embossing seals are readily available today although their use was significantly diminished by the rise in popularity of the rubber stamp and ink pad in the 1960s. The stamp affords ease of use, portability, and placement of the seal anywhere on the document. For a period, nationally at least, the use of appliqué (“stick-on” or “sticky-back”) seals became popular. Seals should be a permanent and archival addition to the technical document; therefore, application of superficial media is not recommended. Today, of course, seals graphically generated via computer software are the norm.
**What is a Facsimile Seal?**

A seal not impressed in the form of an embossment is legally termed a *facsimile* seal. The several Pennsylvania practice laws refer to the allowed limited use of a facsimile seal, meaning one that results in the graphical resemblance of that produced by an embossing seal.

The architecture practice law explicitly requires the procurement of an embossing seal prerequisite to the allowed use of a facsimile seal and the impression of that seal on the first or cover sheet of final architectural documents. Any following sheets optionally may receive the embossing seal or a facsimile. Original signature and date certification must accompany the first or cover sheet embossing seal.

While not directly stated in the regulations of the other four design professions, the State Registration Board of Professional Engineers, Land Surveyors and Geologists has affirmed that the intent and regulatory meaning of the single term *seal* is in fact an embossing seal. As such, an embossing seal must be prominently displayed on the first page, front cover, or flyleaf of each set of drawings, specifications, and designer’s reports, irrespective of design profession. Facsimile seals may be affixed to accompanying drawing sheets.

**Electronic Seals and Digital Signatures**

The term *electronic* with regards to technical documentation simply means: of, implemented on, or controlled by a computer or computer network. According to Commonwealth law, an electronic signature is an electronic symbol or process attached to or logically associated with a document, which is executed or adopted by an individual as a means to sign the document. The terms “*electronic seal*” and “*electronic signature*” implies a digitally encrypted certification. It is beyond the scope of this course to provide an exhaustive treatment of electronic certification. Suffice it to say that secure certifications are created by special software that uses a combination of a pair of keys called the public key and the private key. In essence, the sender encrypts the original document intended for electronic transmission.
using special software and electronically certifies (digitally signs) the document using the private key. The receiver of the electronically transmitted document must use the public key to first decrypt the digital signature in order to gain access to the encrypted document. He then uses the same special software owned by the sender, to decrypt the document itself. The special software insures that unauthorized recipients do not have the capability to decrypt the encrypted secure signature, the encrypted document, nor can they back-convert the encrypted document to its original form.

Pennsylvania's Electronic Transactions Act\(^\text{21}\) became effective in 1999. The law provides for legally binding transactions conducted entirely by electronic means and gives legal recognition for electronic records and signatures. Importantly, the portion of the law relating to electronic transactions applies only where parties have agreed to conduct transactions electronically. Additionally, Commonwealth governmental agencies are afforded discretion under the Act to determine whether, and to what extent, they will accept electronic records. Government agencies are not mandated to expressly use or accept electronic records or signatures. Moreover, the Act states that if other law requires a document to be posted, sent, communicated, or transmitted by a specific method, or is to contain information that is formatted in a certain manner, then the document must be handled in the manner specified in that law. Because the various professional design practice Acts are absent of provisions for electronic or digital signatures, or reference to electronic transmission of technical documents, logically it can be concluded that they are not acceptable.

**Seal Security and Control**

Reasonable steps must be taken to insure the security of physical seals. Consideration should be given for the notification to the respective Board of the loss of a physical seal. Architects are directed to surrender in person, or by registered mail, their physical seals and facsimile stamps to the Board in the event of license revocation or suspension.\(^\text{22}\) Registrants can anticipate destruction of the seal by the Board in the special case of license revocation.
Exemptions from Sealing

Exemptions are specific situations that are granted relief from established law. Under the Pennsylvania practice regulations a few specific exemptions from the requirement for sealing and certification exist as a result of legally allowed practice by unlicensed entities. While it may be important for licensed design professionals to have a clear understanding of the legal capabilities of unlicensed individuals with regard to these activities, reasonably it can be concluded that professionals are nevertheless required to apply their seals to any of their work products that would otherwise be considered exempt.

Exempt Projects and Structures

Non-licensed individuals and firms can legally prepare architectural drawings or design documents for the following projects:\(^{23}\)

1. Detached one-family or two-family dwellings not more than three stories high, or their accessory buildings;
2. Remodeled or altered buildings not involving structural or egress changes or additions;
3. Any utility or farm structure if the structure is used in connection with a farm residence.

Similar legal project and structures exemptions are not offered in the engineering practice Act or regulations.

Federal Government Employees

An exemption can apply to certain employees who provide technical services. These include Architect, Engineer, Land Surveyor, and Geology employees of the federal government, limited to work associated with the United States government.\(^ {24,25}\) While not likely but, nevertheless, legally stated, regularly employed Architects of a railroad, telephone, or telegraph company engaged in interstate commerce are also exempt.\(^ {26}\) It stands to reason that in order to qualify for these exemptions, these individuals must not furnish advisory services to the public for compensation in connection with these technical activities.
Attorneys, Construction Managers, and Geologists

Lawyers are exempt with regard to the writing of property and deed descriptions and individuals involved in the formalized management of construction projects do not require professional licensure. Individuals providing geological services to businesses engaged in the exploration or development of gas or oil are also exempt.

The Industrial Exemption

Nationally, technical employees of private manufacturing concerns who conduct their own internal activities have enjoyed an exemption from the various architectural, engineering, and surveying laws since the very inception of their enactments. This exemption evolved from the proposition of limited exposure and risk to the general public generated by the private activities. Elaboration of this justification follows:

Pennsylvania statues allow employees of manufacturing, mining, communications common carrier, research and development, or other industrial corporations exemption from the licensing Acts provided that the work that they undertake is in conjunction with or incidental to the products or services that business entity renders. Services are understood not to include technical services normally associated with the legalized design professions.

The stance of limited external impact by private operations changed with heightened emphasis and interest in environmental issues in the early 1970s. It is obvious now that emissions and discharges of pollutants to air, surface and ground water, can potentially impact the life, health, safety, and property of the public. Since these emissions are not limited to the boundaries of the industrial property, industrial facilities no longer enjoy omnibus exemption. The internal activities of private industry that may potentially impact the public are regulated by the current practice laws. For example, the Pennsylvania State Department of Environmental Protection (DEP) requires that the design of private industry waste water treatment facilities be carried out under the responsible charge of a Licensed Pro-
Federally mandated oil spill control and countermeasure plans for private industrial facilities in Pennsylvania having aboveground storage capacities greater than 10,000 gallons must be certified by a Professional Engineer.

**Sealing Exemptions Can Be Superseded**

It is an oversimplification to assume that the sealing exemptions are without occasional enforced variation. As it turns out, the applicability of local ordinances, regulations, or building codes may invoke more stringent certification requirements. A perfect example is one in which certain Pennsylvania localities, who wish to participate in the Federally subsidized National Flood Insurance Program (NFIP), must incorporate into their building code ordinance, phraseology mandated by the Federal Emergency Management Agency. Because of this Federal regulation, the building plans for some residential structures situated in flood prone areas, which would otherwise be exempt, may fall under the Pennsylvania statutes.
Summary

1. The use of seals to indicate authenticity dates back to antiquity B.C. in the Old World and back to the colonial period in the United States. The use of technical professional seals in Pennsylvania for document certification began in the first quarter of the twentieth century.

2. Document sealing and certification in Pennsylvania is strictly controlled through the laws of the Pennsylvania Consolidated Statutes and the Pennsylvania Code, both of which can be dynamic. It is incumbent upon licensed and registered professionals to be knowledgeable of these laws and regulations.

3. Practice overlap exists among the licensed design professions; this fact can contribute to sealing improprieties. According to the Architecture and Engineering practice Acts, mutually incidental professional activities are lawful; however, each should limit their practice to those areas of expertise and competence.

4. Final documents should receive certification consisting of sealing, signing, and dating. Interim documents preliminarily released should be clearly labeled as such.

5. Acceptable seal forms are embossments, stamps, and computer generations. A seal impression through an embossment must be utilized on the first page, front cover, or flyleaf of each set of drawings, specifications, and designer’s reports.

6. Exemptions to the practice Acts and regulations currently exist, are dynamic, and can vary and/or can be superseded by local jurisdictions. For this reason, licensed technical professionals must stay abreast of changes to the numerous governing regulations.

Design professionals play a critical role in the public building process. The quality of their service is certainly one of the most important factors in insuring the safety, health, and protection to the natural and built environment. As the first steps in the construction process, a design, and the authenticity of the resulting technical submissions and engineering documents through certification, is intuitively obvious.

It is believed that most Pennsylvania licensed design professionals intend to conduct their practice in compliance with the applicable laws of their respective professions and that they are respectful of the laws of professions who may have overlapping, common practice. Infractions or violations of seal use among the regulated professions often occur simply because the licensee is not aware of the various Board’s Regulations and the Pennsylvania statues.
Additional Resources

The list that follows contains the names, addresses, telephone numbers, and e-mail addresses of organizations and agencies which play an important role in regulatory affairs of Pennsylvania registered and licensed technical professionals. They can be contacted directly regarding any additional information or for clarifications needed on acceptable sealing and certification practices.

1. Pennsylvania State Architects Licensure Board, Post Office Box 2649, Harrisburg, PA 17105-2649, (717) 783-3397, st-architect@state.pa.us.
2. Pennsylvania State Registration Board for Professional Engineers, Land Surveyors and Geologists, Post Office Box 2649, Harrisburg, PA 17105-2649, (717) 783-7049, st-engineer@state.pa.us.
3. State Board of Landscape Architects, Post Office Box 2649, Harrisburg, PA 17105-2649, (717) 772-8528, st-landscape@state.pa.us.
9. National Society of Professional Surveyors, 6 Montgomery Village Avenue, Suite 403, Gaithersburg, Maryland 20879, (204) 632-9716, Facsimile: (204) 632-1321, curtis.sumner@acsm.net.
11. The Council of Landscape Architectural Registration Boards (CLARB) 3949 Pender Drive Suite 120 Fairfax, VA 22030, (571)-432-0332, dludwig@clarb.org.
References

1. Courtesy Pennsylvania General Assembly website. The complete URL is: http://www.legis.state.pa.us/WU01/VC/visitor_info/.
8. Ibid, 63 P.S. §149(a)(4).
12. The Landscape Architect's Registration Law, Act of 1965, P.L. 1527, No. 535, Section 8
13. Ibid, Section 3.
15. Private use of Commonwealth seals is restricted by law. Pennsylvania Commonwealth seals may not be used for commercial purposes by unauthorized individuals. It is held that the consequential commercial use of the seals displayed in this course is subordinate to the primary purpose of education. Therefore, their use herein is believed to be consistent with the intent of the law.
16. The Pennsylvania Code, Title 49, Professional and Vocational Standards, Part I, Department of State, Subpart A, Professional and Occupational Affairs, Chapter 37, State Registration Board for Professional Engineers, Land Surveyors and Geologists, §37.58(c).
17. Engineer, Land Surveyor and Geologist Registration Law, Act of 1945, P.L. 913, No. 367, Sections 4(g)(8) and 4(g)(9).


21. Pennsylvania Consolidated Statutes, Title 73, Trade and Commerce, Chapter 41, Regulatory Electronic Transactions, Chapters 1, 3, and 5, *The Uniform Electronic Transactions Act*.


30. *Ibid*, Section 5(g).

31. *Domestic Wastewater Facilities Manual*, Bureau of Water Quality, Department of Environmental Protection, Part III, Standards for Domestic Wastewater Facilities, Section 10, Engineering, (c) and (d), Engineer's seal.