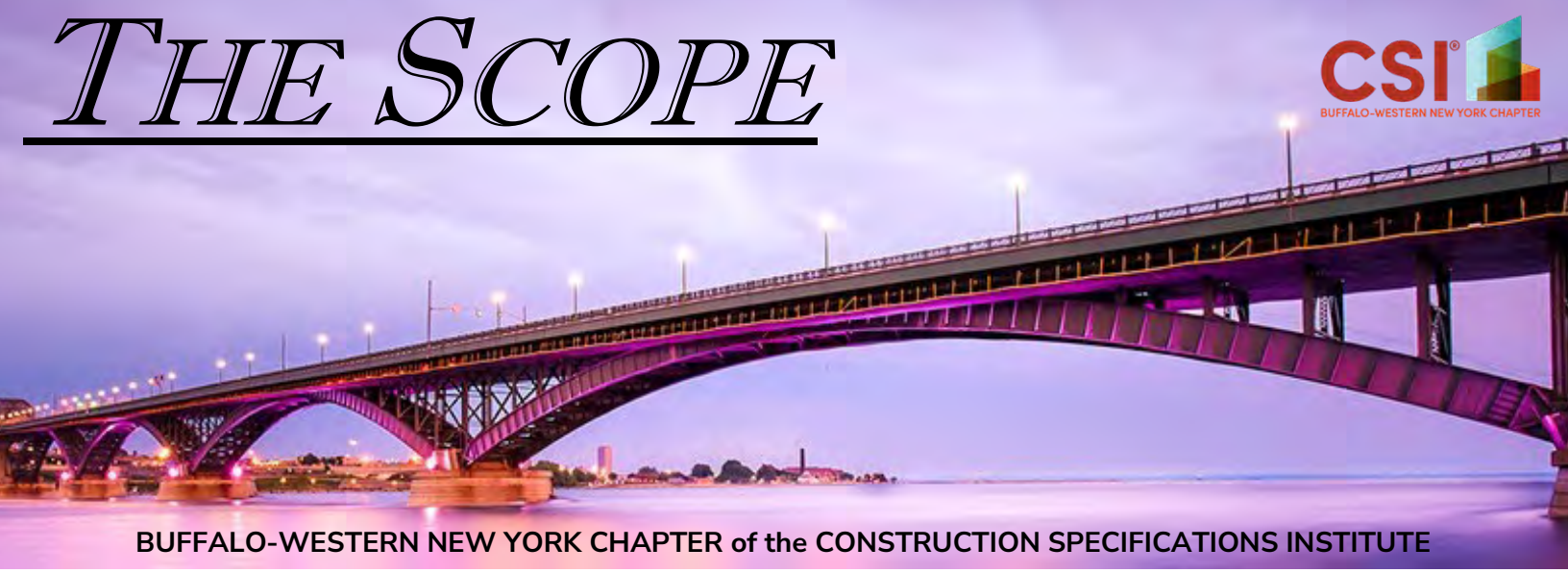
THE SCOPE



BUFFALO-WESTERN NEW YORK CHAPTER of the CONSTRUCTION SPECIFICATIONS INSTITUTE

Construction Specifications Institute, Inc.: www.csiresources.org
Northeast Region CSI: www.nercsi.com
Buffalo/WNY Chapter: www.csibwny.com

September 2025

Upcoming Events

Tour of Hadley Exhibits Design and Production Facility

Event Type: Tour + dinner

Date and Time: Thursday, September 11, 2025, meet at 4:45 pm (rescheduled from original June date)

Location: Hadley Exhibits, 1700 Elmwood Ave, Buffalo, NY 14207, followed by dinner at the Buffalo Yacht Club, One Porter Ave, Buffalo NY 14201 .

Presenter: Dave Johnson, CEO Hadley Exhibits

Hadley Exhibits Inc.

Accreditation: AIA accreditation is being sought for 1.0 LU; pending.

Description: Did you ever wonder who it is that creates innovative exhibits for companies exhibiting at trade shows for various industries? What type of firm provides permanent exhibits in museums, visitor centers, or zoos and gardens? Hadley Exhibits, of Buffalo NY, has over 100 years of experience in this niche industry. Hadley performs project management, design, fabrication, and construction of various types of exhibits for its clients.

This event includes a tour of Hadley's 180,000 square foot facility in North Buffalo. Parking is in the Hadley lot on Elmwood Avenue, north of the building. Access Hadley's building via the Elmwood Avenue entrance on the building's east side. Meet in the lobby at 4:45 pm with the tour starting at 5:00 pm sharp. Please endeavor to

Continued on Page 4.

Inside this issue:

Chapter Board

Chapter Officers:

President: David Rood, CSI, Commercial Sales, Weatherpanel, Inc, Dave.Rood@srsdistribution.com, drood@weatherpanel.com

Vice-President: (available)

Secretary: Robert Rumpl, AIA, CSI, Trautman Associates rrumpl@trautmanassoc.com

Treasurer: Robert Kimmel, Pella, Trade & Commercial Sales KIM-MELRD@Pellabuffalo.com

Immediate Past President: Devin Filipiak, CSI, CIT Filipiak Construction Consulting & Management, LLC. devin@filipiakccm.com

Region Director: Jim Bourgeois, CSI, Architectural Sales Representative, MarinoWare, jbourgeious@marinoware.com

Committee Chairs:

Programming/Special Events: Deborah Siener, RA, CSI, CDT, LEED, APBD+C, Project Architect, Azar Design Co (formerly Foit-Albert Associates), DSiener@azardzn.com

Awards: Rob Fohl, CSI, robfohl@fohlsales.com

Certification: Kevin O'Beirne, PE, FCSI, CCS, CCCA, CDT, National Manager of Engineering Specifications at a large design firm, Kevin.obeirne@hdrinc.com

Communications/Marketing: Vacant

Membership: Brad Vaillancourt, AIA, CSI, LEED, APBD+C, Trautman Associates, bvaillancourt@trautmanassociates.com

Newsletter Editor: Kevin O'Beirne (interim)

Directors:

Rob Fohl, Fohl Sales, Principal, fohlsales.com

Brad Vaillancourt, AIA, CSI, LEED, APBD+C, Trautman Associates, bvaillancourt@trautmanassoc.com

William Ferguson, CSI, AHC, wsferguson@roadrunner.com

Jim Bourgeois, CSI, Architectural Sales Representative, MarinoWare, jbourgeious@marinoware.com

Robert Kimmel, Pella, Trade & Commercial Sales KIMMELRD@Pellabuffalo.com

Websites:

CSI Buffalo-Western New York Chapter: www.csiwbny.com

CSI Northeast Region: www.nercsi.com

CSI-National: www.csiresources.org

The Scope

Newsletter of CSI's Buffalo-Western New York Chapter

The Scope is published approximately eight times per year, typically in September, October, December, January, February, April, May, and June, on or around the first day of the month. Submittals of articles and information of general interest to CSI's members and the design and construction community of Western New York, is always welcome. Submittals for this newsletter are due by the 15th of the previous month (approximately two weeks before publication). Please submit articles, information, and requests to the (Interim) Editor:

Kevin O'Beirne

Kevin.obeirne@hdrinc.com

716-207-0396

Advertise in *The Scope*

Each issue of *The Scope* reaches approximately 650 people in the Buffalo-Western New York design and construction community, across a variety of disciplinary areas. An ad costs $100 per year. Contact the Editor for additional information.

Editorial

Why Buffalo is Here

By Kevin O'Beirne

No, this editorial is not exploring some type of weird, existential question that one might contemplate a few hours after visiting the cannabis dispensary. Rather, to channel Andy Rooney from *60 Minutes*, "Did you ever wonder why Buffalo is located where it is? Why is that important?" Really, I'm being serious.

Buffalo's location is strategic, both when the community was founded around 1800, as well as in 2025. Not only does the city sit at the choke-point for all maritime traffic from the upper four Great Lakes, but it is also at a narrow land-bridge on the border of two G7 nations. Buffalo's role as a trade and transportation nexus is the principal reason why the community was founded more than 225 years ago, and why it continues to be important today.

In the 1790s and early 1800s, transportation by land over long distances was very difficult, due to the scarcity of roadways and their generally poor quality. Land transportation of goods beyond the next town was virtually economically infeasible. Waterways were the principal avenues of commerce, and Buffalo was originally developed because of its strategic location where Lake Erie flows into the Niagara River. As described in greater detail in this issue's "Landmark Structures" column, the 1825 opening of the Erie Canal, which had its western terminus at Buffalo, spurred tremendous economic opportunity and population growth for western New York.

Although the Erie Canal's importance for commerce declined significantly by the early twentieth century, Buffalo remained a major industrial and transportation center, due, in part, to its role as a railroad hub, as well as the construction and expansion of the Welland Canal. By the time the St. Lawrence Seaway opened in the 1950s, major, ocean-going ships could cross the Atlantic, sail up the Seaway, cross Lake Ontario, travel the Welland Canal, and reach Buffalo. From there, ships could access other, major, Great Lakes cities, such as Cleveland, Detroit, Chicago, Milwaukee, and others. Earlier lock systems on the St. Lawrence River, dating to 1871, had allowed transit of smaller vessels. Buffalo's role as an intermodal transportation hub is why the area immediately south of downtown still includes a number of grain elevators.

With the construction of the Interstate Highway System in the 1950s and 1960s, Buffalo's connection to major roadway networks was complete. While, over time, many people in western New York have fondly wished for the U.S. Route 219 expressway to be extended from Rushford all the way to southern Pennsylvania, the fact is, western New York has a pretty good, extensive roadway network.

In addition, Buffalo's location offers a copious supply of high-quality surface water, which is essential for life and economic development. The region also includes two fairly large, easily accessible airports: Buffalo-Niagara International Airport, and the Niagara Falls Airport. Its proximity to the major population centers of Canada present Buffalo with exceptional economic advantages. Although people can legitimately assert that western New York's winter weather lacks some appeal, it is really a small price to pay for such an advantageous location.

Because of its strategic location and transportation networks, Buffalo will continue to remain a vital and essential component of the transportation and trade system for the northeastern portion of the continent. Buffalo's location where it is has been no accident, and it is extremely important to recognize the many advantages of Bufalo's place in the world.

[End]

Continued from page 1

arrive on time.

After the tour, a dinner will be held at the Buffalo Yacht Club. Men must wear shirts with a collar. No tank tops. Jeans are acceptable.

Cost: *$25.00 Member - Tour & Dinner, $35.00 Non-Member - Tour & Dinner.*

Reservations Due By: September 5, 2025.

To Make Reservations: csibwny.com/meetinginfo.php?id=48

For Additional Information Contact: Rob Fohl, 716-864-9593, robfohl@fohlsales.com

CSI NATIONAL CONFERENCE

CSI National Conference

Event Type: Educational seminars, exhibit hall, and CSI-National annual meeting.

Date and Time: October 15-17, 2025.

Location: Hilton Cleveland Downtown, 100 Lakeside Avenue East, Cleveland, Ohio, 44114.

Accreditation: Multiple presentations accredited for AIA LU HSW.

Description: CSI's annual national conference is being held only 190 miles from Buffalo along Interstate I-90 west. It is not often the annual conference is held this close to Western New York. The conference includes multiple days of educational sessions, exhibit hall, banquet, awards ceremony, and networking opportunities. If you have never previously attended a CSI National Conference, 2025 is the year to strongly consider attending. For additional information, see CSINationalConference.org.

Cost: Cost information is available on the conference website.

Reservations Due By: Refer to conference website.

To Make Reservations: Registration is open.

WCNY Glass and Glazing Expo

Event Type: Day-long conference/seminar/trade show

Date and Time: October 17, 2025, 7:30 am—3:30 pm

Location: 585 Aero Drive, Cheektowaga NY

Accreditation: Up to 5.0 AIA LUs

Description: See website, linked below.

Cost: None (free)

To Make Reservations: WCNY Glass & Glazing Expo

For Additional Information Contact: See event website, linked above.

CSI Buffalo-WNY Half-day Seminar

Event Type: Educational seminars

Date and Time: November 13, 2025, 12:00-5:00 pm

Location: M Hotel Buffalo (formerly the Millennium), 2040 Walden Avenue, Cheektowaga NY.

Presenter: TBD

Accreditation: 4.0 AIA LU (HS&W) anticipated

Description: CSI's Buffalo-WNY chapter will host a half-day educational seminar with four, different one-hour presentations, each by a different presenter. Presenters and topics were not yet available at the time of publication. Event check-in desk opens at 11:30 am, followed by lunch at 12:00 pm, with educations sessions ending at approximately 4:30 pm, followed by networking and refreshments at 4:30-5:00 pm. Additional information will be forthcoming in the next issue of this newsletter.

Continued from page 4

Cost: Members— Free, Non-Members—TBD

Reservations Due By: November 6, 2025

To Make Reservations: TBD

For Additional Information Contact: Dave Rood, (716) 583-3612, Dave.Rood@SRSBuildingProducts.com

CSI Buffalo-WNY Chapter Holiday Dinner

Event Type: Holiday dinner (no presentation)

Date and Time: December 4 or 11, 2025, (final date and time TBA).

Location: TBD

Description: More information is forthcoming.

Cost: TBD

For Additional Information Contact: Bob Rumpl, rrumpl@trautmanassoc.com.

Architect's Ski Day 2026

Event Type: Skiing/networking/supplier exhibits

Date and Time: February 6, 2026, 8:00 am—4:00 pm.

Location: Holiday Valley Ski Resort, Holiday Valley Lodge (Main Lodge, second floor), 6657 Holiday Valley Road, Ellicottville NY 14731

Accreditation: none

Description: See sponsorship flyer at end of this issue. Additional information is forthcoming in the October/November issue of this newsletter.

Cost: TBA

To Make Reservations: Details TBA. Registration will open on or around October 12, 2025. Early registration (reduced rates) will close on or around December 12, 2025. Last day to register is anticipated to be January 9, 2025.

For Additional Information Contact: Brad Vaillancourt, membership@csibwny.com

CSI Northeast Region 2026 Annual Conference

Event Type: Educational seminars, exhibit hall, tours, and Northeast Region meeting.

Date: May 14-16, 2026. Description of daily activities is presented below.

Location: Downtown Buffalo, NY. Precise location TBA.

Accreditation: Multiple presentations will be accredited for AIA LU.

Description: **Hosted by CSI Buffalo-WNY Chapter**. CSI Northeast Region's annual conference will include: Thursday - registration open, welcome reception, hospitality suite. Friday - exhibit hall, multiple presentations for AIA-accredited sessions, tour, happy hour/scholarship fundraising auction, and banquet. Saturday - annual meeting, CSI-National update, awards lunch, and CSI leadership workshops. Conference is all day Friday and Saturday.

The featured tour on Friday afternoon will include bus transportation and guided tour of the new Buffalo Bills stadium in Orchard Park, NY. Details of the tour have not yet been established and the tour still needs to be confirmed. The tour will likely have capped attendance, and a second, alternative tour of a downtown Buffalo site of architectural interest will likely also be available.

Planning for the Friday education sessions is underway. The event will feature a total of seven, 1-hour sessions, in two, parallel tracks, with one keynote session at lunch for all attendees. Themes, presentation topics, and speakers are being organized. Prospective presenters should contact the

Continued from page 5

Chapter's conference chair indicated below.

Cost: TBA. Full-conference registration for the 2025 Northeast Region conference was $200 per person, including all meals from Friday morning (including banquet) through Saturday lunch, educational sessions, tours, and hospitality suite on Thursday and Friday evenings. Such cost excludes lodging and transportation.

Reservations Due By: May 13, 2025.

To Make Reservations: TBA

For Additional Information Contact: Jim Bourgeoius, (732) 253-2678, jbourgeious@marinoware.com

Update on 2026 Northeast Region Conference Planning

By Jim Bourgeois

Planning is underway for the Buffalo-WNY Chapter to host the upcoming Northeast Region (NER) annual conference on May 14-16, 2026 . The Chapter has formed a provisional conference planning committee, headed by Jim Bourgeois, and the first planning meeting was held in July. During the July meeting, a principal topic of discussion was prospective venues for the conference. As of the time of this writing in mid-August, a leading contender for the venue is the Embassy Suites, at the intersection of Main Street and Chippewa Street in downtown Buffalo.

It is currently envisioned that a key component of the 2026 NER conference will include a tour of the new Buffalo Bills Stadium, which is expected to be approximately 95 percent complete by the time of the conference in mid-May 2026. Deb Seiner is currently interfacing with the stadium's constructors and owner regarding a potential tour.

Potential conference theme ideas were preliminarily discussed. While the conference's theme is certainly not yet established, and suggestions from Buffalo-WNY Chapter members are welcome and eagerly accepted, one theme currently being considered is a, "Back to Basics" approach, which would help better-educate less-experienced design professionals and refresh past lessons learned by more-experienced professionals. When the theme is finalized and selected, the conference's educational sessions will each be built around, or have a strong association with, the conference theme.

The planning committee's next meeting will be August 25, 2025 at 3:00-4:00 pm Eastern, via Microsoft Teams web meeting. Anyone interested in helping to plan the 2026 NER conference in Buffalo should contact Jim Bourgeious at (732) 253-2678, jbourgeious@marinoware.com, to be added to the committee contact list. Going forward, the planning committee will hold conference calls periodically, most likely monthly.

Report on June 2025 CSI Buffalo Chapter Board Meeting

On June 26, 2025, CSI-Buffalo Chapter President, Dave Rood, hosted members of the chapter's board for

Construction progress photo of the new Buffalo Bills Stadium, August 3, 2025 (Photo from SportsRender.com, by Arlind)

a meeting and picnic dinner at his home in Boston NY. The evening featured good weather, good food, and excellent friendship and camaraderie. During the meeting, Jim Grucella was presented with awards commemorating his 37 years of service to the chapter and Northeast Region, together with his service as the editor of this publication. Jim stated, “I was floored with receiving the two awards! It was great to see everyone, and be able to talk without hurry.” Bill Fergusen was also recognized for his years of service to the chapter including many years as Treasurer. Immediately below is a photo of Dave Rood and Jim Grucella, followed by Dave presenting Bill Fergusen’s award.

***Top**: Dave rood presenting Bill Ferguson at the June board meeting. **Below**: Dave Rood presenting Jim Grucella’s Chapter President’s Award for lifetime achievement.*

Leadership positions available in CSI’s Buffalo-WNY Chapter

The Buffalo-WNY Chapter Board has heard and is acting upon your perpetual screams eagerly requesting volunteer and leadership opportunities on the chapter board. You’ve asked. We’ve listened!! Opportunities do not get any more rare or exciting than this!!! The chapter currently has the following positions immediately available:

Vice President: Just one heartbeat away from wielding absolute power, the Chapter’s vice president functions as an at-large member of the board and is commonly viewed as the next, incoming president of the Chapter. This is an extremely important position for the chapter’s continued health and welfare. Applicants for this position are eagerly sought.

Communications/Marketing Director: Responsibilities of this position include drafting and transmitting the Chapter’s electronic communications, such as email notices of upcoming events and transmittal of the newsletter, as well as actively promoting and marketing the Chapter. In the latter capacity, this position works with the Membership and Program Committee Chairs, as well as the Chapter’s other committee leaders as necessary. The ability to string words together in coherent English-language sentences is desirable for this position. This member of the board is separate and distinct from the newsletter editor.

Any bipedal being with a pulse and extremely rudimentary computer skills, who pays their CSI membership dues, is qualified to serve in either of these positions. Those who apply and “make the cut” will become the envy of all their professional colleagues, family, friends, and the world community at large. Plus, you will have the satisfaction of becoming more-involved in your local CSI organization. The board is a bunch of fun-loving, hip, professionals who shape western New York's built environment every day. Don’t you want to be a more active part of that?

Becoming part of the board will improve your network of professional associates. You will acquire additional leadership skills, and have the satisfaction and contentment associated with volunteering for a very-worthwhile organization.

Please contact any current member of the CSI Buffalo—WNY Chapter board to express interest. Contact information for each member of the board is on Page 2 of this, and every other, issue of this newsletter.

Landmark Structures

The Erie Canal

From "Clinton's Folly" to Buffalo's Economic Boon

By Kevin O'Beirne with a lot of help from "Staff Writer AI"

Although this column normally features profiles of notable buildings, other types of construction can also be a landmark structure, such as significant public works and transportation facilities. For example, the Erie Canal is a notable, famous array of structures. "The Big Ditch" will observe its Bicentennial on October 26, 2025. Without question, the canal is one of the most important factors influencing the growth of the City of Buffalo and northern portions of Western New York. For those who may perhaps take the longtime presence of the Erie Canal somewhat for granted, this article presents an overview of the canal's conceptualization, original construction, importance, evolution, and its modern features in Western New York.

Conceptualization

The idea of a canal linking the Hudson River to the Great Lakes had been proposed as early as the 18th century. However, it was not until the early 19th century that the project gained momentum. In early 19th century America, transportation by road was extremely difficult. Outside of urban areas, few roads existed and many were of poor quality. Roads between towns were often privately owned toll roads. Therefore, travel by water was the most reliable, rapid, and cost effective means of transporting people, animals, and goods.

In 1800, New York City was the leading municipality in the state, making the Hudson River the most important transportation route in the northeast. The Hudson River was largely responsible for the early development of Albany. The existence of the Great Lakes, which are really a chain of connected, inland seas, allowing access to the continent's interior, was long known to European-Americans. However, a reliable route into the Great Lakes from the ocean was unavailable. The Hudson River/Lake Champlain corridor did not connect to the Great Lakes or the St. Lawrence River. While the St. Lawrence River provided a waterway from the Atlantic Ocean to Lake Ontario, its use for ocean going shipping was reduced because of rapids and shallows. Access from Lake Ontario to the four, upper Great Lakes as a reliable means of transporting goods was impossible because of the 175-foot vertical drop in the riverbed at Niagara Falls. Thus, in 1800, Americans desiring a waterway from the eastern seaboard into the continent's interior were foiled. By 1800, ideas began to take shape to cut a 360-mile canal across upstate New York, connecting the Hudson and Mohawk Rivers to Lake Erie. The plan would create an entirely American waterway, bypassing both the St. Lawrence River and Niagara Falls. In 1807, the maiden voyage of the world's first, reliable steamboat, on the Hudson River, signaled that technology for transporting goods without the vagaries of wind and tides on the Hudson, had become available. Plans for the canal were delayed by the 1812-1815 war between the United States and Britain, when American resources were devoted to the war, and during which the Niagara River was a principal theater of combat.

DeWitt Clinton, 1823 (painting by Rembrandt Peale)

The driving force behind the canal was DeWitt Clinton, whose first term as governor of New York commenced in 1817. He championed the project despite widespread skepticism. Critics dubbed it "Clinton's Folly," and "the big ditch", doubting the feasibility of constructing such a massive waterway through rugged terrain and dense wilderness. Nevertheless, Clinton and other proponents saw the canal as essential to economic growth. By establishing the nation's principal waterway connecting the Atlantic Ocean to the Great Lakes, development of upstate New York would be spurred, and the importance of the Hudson River and New York Harbor as the nation's principal route of commerce, would be greatly enhanced.

Time was of the essence, because settlers, mov-

ing westward from the eastern seaboard, were already crossing the Appalachian Mountains to new frontiers. Although the journey from the Potomac River across western Maryland and southwestern Pennsylvania was arduous, that route competed with the planned Erie Canal, because the southern Pennsylvania alternative gave western-bound settlers access to the Ohio River at Pittsburgh, from which boats could access virtually the entire Mississippi River watershed. By the late 1790s, development of southern Ohio, along the Ohio River, was already well under way.

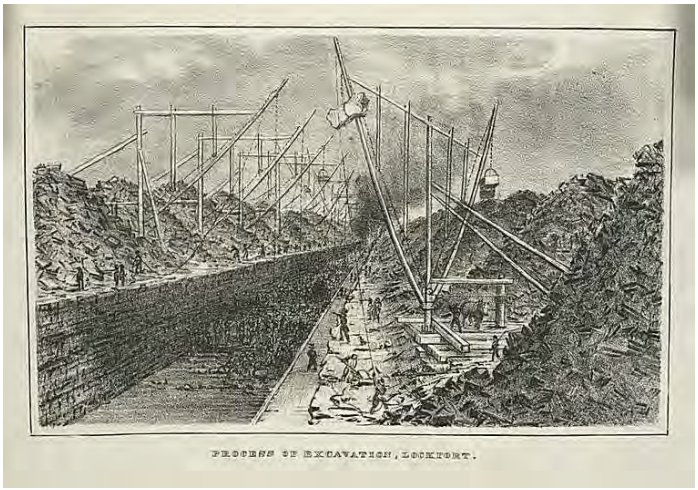
Engineers sought the most level route possible for the Erie Canal to minimize the need for complex structures like locks and aqueducts. Relative to the canal, aqueducts were watertight bridges carrying the canal across low points, such as creeks, rivers, and valleys. The Mohawk River Valley was a natural corridor through the otherwise rugged Appalachian terrain, making it the logical east-west path from the Hudson River to the Great Lakes. The route is shown in the figure below.

The canal's route also had to ensure a reliable water supply, influencing the placement of feeder canals and reservoirs. The canal had to cross rivers, swamps, and elevation changes. Engineers used locks to manage elevation and aqueducts to cross rivers. The project became a training ground for American civil engineering, as many of the techniques were new to the United States at the time.

Construction 1817-1825

Construction of the Erie Canal began in 1817 and took eight years to complete. The project was a monumental engineering feat for its time. Approximately 50,000 workers, many of them Irish immigrants and local farmers, used rudimentary tools, such as shovels, picks, wheelbarrows, and animal-drawn wagons, to dig the canal by hand. Steam shovels were not invented until the late 1830s and did not come into widespread use for excavation and dredging until the 1840s and 1850s. The Erie Canal's construction workers faced swamps, forests, and rocky terrain, as well as the challenge of building aqueducts, locks, and embankments.

Upon its completion, the 363-mile canal was 40 feet wide and four feet deep, with 83 locks accommodating the 565-foot elevation difference between the Hudson River and Lake Erie. The canal had earthen banks which were either lined with clay or simply compacted earth, to reduce water seepage, but were not stone lined, as in later im-



Original excavation of Erie Canal Locks at Lockport, NY

provements. The original locks were primarily wood, especially timber cribbing filled with stone. Some locks used cut stone masonry for durability, particularly in areas with higher traffic or where stone was readily available. Each lock was about 90 feet long and 15 feet wide, accommodating the period's canal boats. The adjacent towpath, on the canal's bank, was compacted earth, often reinforced with gravel or crushed stone in wetter areas. It ran alongside the canal and was used by mules or horses to tow canal boats via long ropes.

Despite the lack of modern machinery, the project was completed on time and within budget, a re-

markable achievement that demonstrated the ingenuity and determination of early American engineers and laborers.

The main canal connected to the Niagara River at the modern-day City of Tonawanda, NY. Canal boats then moved approximately eight miles up the New York bank of the Niagara River to Buffalo, via the Black Rock Canal. Buffalo's Black Rock Canal was originally constructed between 1823 and 1825, as part of the original Erie Canal infrastructure. It allowed canal boats to move safely alongside the exceedingly-swift current at the upper Niagara River's narrowest channel, and providing a protected navigation route between Buffalo Harbor and the Erie Canal. The Black Rock Canal included the Black Rock Lock, which controlled the elevation difference and water flow between the canal and the river. The lock and canal system were essential for early shipping and trade.

Buffalo's Erie Canal Commercial Slip was the western terminus of the original Erie Canal, where canal boats transferred goods and passengers to and from ships on Lake Erie. Located in Buffalo's Inner Harbor, the Commercial Slip was a man-made inlet, forming a critical link between inland waterways and Great Lakes shipping routes. In the late 1820s and 1830s, the area around the slip, known as the Canal District, became one of the most densely populated and economically active parts of Buffalo, helping the city grow into a major port and industrial center.

Importance of the Canal

The Erie Canal was one of the most ambitious and transformative infrastructure projects in American history. Stretching approximately 363 miles from Albany on the Hudson River to Buffalo on Lake Erie, the canal connected the Atlantic Ocean to the Great Lakes, creating a continuous waterway that opened the interior of North America to commerce, migration, and development. Between its completion and the rise of railroads in the mid-19th century, the Erie Canal played a central role in shaping the economic, demographic, and political landscape of the United States, especially New York.

The canal dramatically reduced the cost and time of moving freight. For example, the cost of shipping a ton of goods from Buffalo to New York City dropped from about $100 to less than $10. Travel time was cut from several weeks to just a few days. The canal was the most cost-effective transportation route in the country during its early decades.

The canal also played a crucial role in the westward expansion of the United States. It facilitated movement of settlers into the Midwest, encouraged the development of towns and cities along its route, and helped integrate the national economy.

The canal facilitated the movement of agricultural products, especially grain, flour, and livestock, from the Midwest to eastern markets. In return, manufactured goods and supplies flowed westward. This two-way trade helped integrate regional economies and laid the foundation for a national market system.
The Erie Canal was instrumental in turning New York City into the nation's leading port and financial center. By providing a direct link between the interior and the Atlantic, the canal diverted trade away from rival ports like Philadelphia and Boston. New York's harbor became the primary gateway for imports and exports, and the city's population and wealth surged as a result.

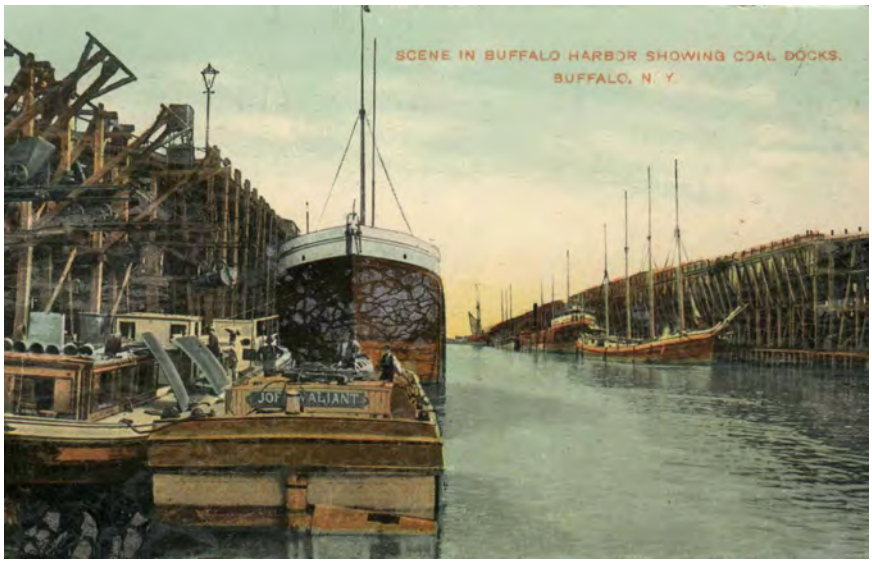
Upstate New York also flourished. Towns and cities along the canal, such as Syracuse, Rochester,

Population of Buffalo, Rochester, and Syracuse, 1800-1860

Year	Buffalo, NY	Rochester, NY	Syracuse, NY
1800	25 est.	15-20 est.	50-100 est.
1810	1,508	<100 est.	250-300 est.
1820	2,095	1,520 est.	1,000 est.
1830	8,668	9,269 est.	6,000 est.
1840	18,213	20,191	
1850	42,261	36,403	22,271
1860	81,129	48,204	28,119

and Buffalo, grew rapidly into commercial and industrial hubs, as indicated in the table, below. The canal spurred investment in mills, warehouses, and factories, and encouraged immigration and settlement in the region.
Other, smaller cities grew up along the canal, including western New York communities such as Fairport, Spencerport, Brockport, Medina, Lockport, Middleport, and others. Of course, the canal was the reason why many of these cities included, “port”, in their name.

The success of the Erie Canal inspired a wave of canal-building across the United States, though few matched its scale or impact. The 300-mile Ohio and Erie Canal, constructed between 1825 and 1832, linked Toledo and Cincinnati by water, creating a second connection between the Great Lakes and the nation’s inland rivers. Another notable competitor was the 184-mile Chesapeake and Ohio Canal, constructed between 1828 and 1850, linking the Potomac River, just above Washington D.C., with the Ohio River. The Erie Canal also demonstrated the power of state-led infrastructure



investment, influencing future projects such as railroads and highways.

Politically, the canal strengthened New York’s influence within the union and helped solidify the idea of internal improvements as a legitimate function of government. During the presidential administrations of John Quincy Adams (1825-1829) and Andrew Jackson (1829-1837), whether the United States federal government should, or could, finance infrastructure projects, known as, “internal improvements”, was one of the most hotly-debated political flashpoints of its time. The Erie Canal thus contributed to the rise of the Whig Party, which supported federally-funded internal improvements.

The Erie Canal played a vital role in the westward movement of people and goods. It made it easier and more affordable for settlers to move into the Old Northwest Territory (modern-day Ohio, Indiana, Illinois, Wisconsin, and Minnesota). As a result, farmland was developed, new communities were established, and the population of the Midwest grew rapidly. This expansion had political implications as well. The canal helped shift the balance of power toward the interior states and strengthened the economic and political ties between the Northeast and the Midwest.

Although the Erie Canal remained economically vital for decades, the rise of railroads in the 1850s began to eclipse its dominance. Railroads offered faster, year-round service and could reach areas the canal could not. However, the canal’s legacy endured. It had demonstrated the transformative power of infrastructure and set a precedent for large-scale public works projects.

Evolution after 1825

The canal did not remain static. From 1830 onward, it underwent a series of expansions, technological upgrades, and administrative reforms that reflected the growing demands of a rapidly industrializing nation. Many of the most important improvements were implemented between 1836 and 1862, during which much of the canal was lined with durable materials, such as stone, and the waterway was enlarged using steam shovels. These changes ensured the canal’s continued relevance well into the 20th century, even as railroads began to dominate American transportation.

By the 1830s, the original Erie Canal, 40 feet wide and four feet deep, was already struggling to accommodate the increasing volume and size of canal traffic. In response, New York State initiated the enlargement of the Erie Canal in 1836. This ambitious project widened the canal to 70 feet and deepened it to seven feet, allowing larger boats and more efficient transportation.

The enlargement also included constructing new locks, which were longer and more durable than the original wood-and-stone locks. These improve-

ments significantly increased the canal's capacity and reduced congestion, helping to maintain its competitiveness against emerging railroads.

The mid-19th century saw a wave of technological innovations that influenced canal operations. Steam-powered canal boats began to supplement, and eventually replaced, mule-drawn barges and canal boats. Although steam propulsion was limited by the narrow confines of the canal, thus reducing the speed at which steam-powered vessels could travel on the canal because of erosion concerns, they nevertheless marked a shift toward mechanization.

Engineers also improved aqueduct design, replacing older wooden structures with more durable stone and iron construction. For example, the Rochester Aqueduct, over the Genessee River, was rebuilt to accommodate the enlarged canal and heavier traffic loads.

By the late 19th century, the Erie Canal faced stiff competition from railroads. In response, New York State initiated the Barge Canal Act of 1903, leading to construction of the New York State Barge Canal System, completed in 1918. This system incorporated the Erie Canal into a broader network of navigable waterways, including the Champlain, Oswego, and Cayuga-Seneca canals.

The Barge Canal was a complete reimagining of the original Erie Canal. It followed a different route in many places, utilized natural rivers where possible, and featured modern concrete locks, with electrically powered, iron gates, and motorized barges and tugboats. The new canal was 12 feet deep and 75 feet wide, capable of handling much larger barges and cargo loads. In most locations, the new canal featured concrete walls and a concrete channel bottom, although large riprap armor stone was used in some locations.

Despite these upgrades, the canal's economic dominance declined in the 20th century, as highways and railroads became the preferred modes of freight transport. However, the Erie Canal remained important for bulk cargo, particularly agricultural and industrial goods, well into the mid-1900s.

Culturally, the canal became a symbol of American ingenuity and perseverance. It played a central role in shaping the identity of upstate New York and was celebrated in literature, music, and folklore.

Today, the Erie Canal is part of the New York State Canal System, managed by the New York Power Authority. While commercial traffic has diminished, the canal thrives as a recreational waterway, attracting boaters, cyclists, and tourists. The Erie Canalway National Heritage Corridor, established in 2000, promotes the preservation and interpretation of the canal's historical and cultural significance.

In the 20th century, the area around Buffalo's Commercial Slip was heavily redeveloped. The Memorial Auditorium, completed in 1940, was built directly over the end of the Commercial Slip. In the 1920s, the slip was filled in and repurposed as part of the Hamburg Drain, a sewer system that followed the path of the former Little Buffalo Creek.

The slip remained buried and largely forgotten until a major excavation and restoration project began in the early 2000s, culminating in its reopening in 2008 as part of Buffalo's waterfront revitalization efforts. Today, the restored Commercial Slip is a centerpiece of the Canalside district, serving as a public space that commemorates Buffalo's canal heritage.

Like Buffalo, other upstate New York cities along the canal have incorporated the waterway into their urban renewal and economic development planning. Today, pedestrian access and greenways along the canal enhance areas of Rochester, Syracuse, Utica, Schenectady, and many other

intermediate communities along the canal.

Modern initiatives have focused on sustainability and revitalization, including restoring historic structures, developing canal-side trails, and community engagement programs.

Features of the Modern Canal in Western New York

Between Rochester and Buffalo, the Erie Canal showcases a blend of historic infrastructure and modern enhancements, reflecting ongoing efforts

***Above**: Erie Canal lift bridge at Spencerport, NY (photo by Rochester Democrat and Chronicle). **Below**: "Flight of Five" locks at Lockport, NY (photo by Dean Hueber).*

to preserve and revitalize the waterway. This segment of the canal features several notable engineering elements including locks, lift bridges, and revitalized canal corridors.
The modern Erie Canal system includes 34 operational locks, several of which are located between Rochester and Buffalo. Modern locks are constructed with reinforced concrete and steel gates, replacing the original timber structures of the 19th century. Lock gates are operated hydraulically or electrically, with control stations that monitor water levels and boat traffic.

One of the most impressive lock systems in western New York is the Lockport Flight of Five, a historic series of stone locks built in the 1800s. Adjacent to these are Locks E34 and E35, constructed in 1918.

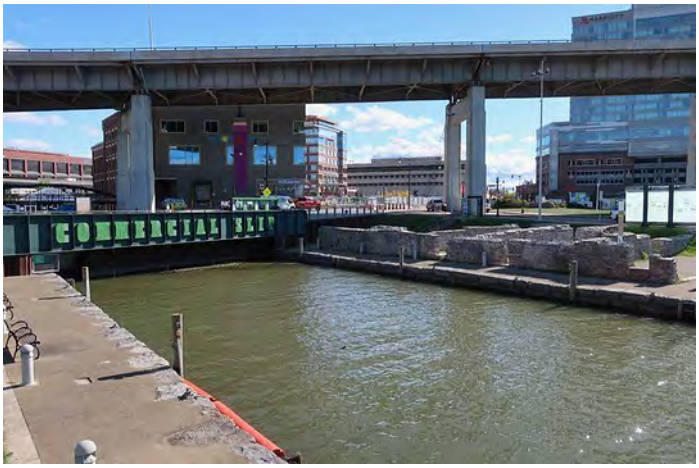
Lift bridges are another distinctive feature of the canal, especially in western New York. Built primarily between 1905 and 1918, these bridges allow road traffic to cross the canal while also accommodating boat passage. In western New York, the canal's bridges are vertical lift bridges, meaning the entire road deck is raised straight up between two towers to allow boats to pass underneath. Large counterweights, inside the towers, are connected to the bridge deck by cabling, and balance the bridge deck's weight. When a vessel approaches, the bridge operator halts road traffic and raises the bridge deck, typically about 15 feet, to provide clearance.

There are 15 operational lift bridges along the Erie Canal in western New York. These structures are often painted in bright colors and feature historic signage. Towns like Medina, Brockport, and Fairport are known for their picturesque bridges. In Buffalo, the West Ferry Street bridge over the Black Rock Canal, is a drawbridge-type crossing, with a tower on only one end.

In recent years, New York State has invested in rehabilitating and renewing the Erie Canal, to enhance its role in recreation and tourism. The Erie Canalway Trail, a multi-use path paralleling the canal, connecting communities from Buffalo to Albany, has been improved and upgraded. Interpretive signage and museums, such as the Lockport Locks District Museum, educate visitors about the canal's history and engineering. The Reimagine the Canals initiative, launched in the 2020s, aims to make the canal more resilient to climate change, support economic development, and expand recreational access. Projects under this initiative include flood mitigation, hydroelectric upgrades, and community waterfront revitalization.

In Buffalo, efforts to commemorate the canal's bicentennial have included building a reconstruction of the *Seneca Chief,* which is a full-sized replica of the historic Erie Canal boat that carried Governor DeWitt Clinton during the canal's inaugural voyage

in 1825. Built by the Buffalo Maritime Center between 2020 and 2024, the project involved over 200 volunteers, students, and partner organizations. Constructed inside the Longshed at Canalside on Buffalo's waterfront, the boat showcases traditional craftsmanship using materials like white oak for its keel and frames. The *Seneca Chief* is now docked in the Commercial Slip and serves as a public exhibit, where visitors can observe volunteers finalizing its construction and outfitting, and learn about the canal's legacy. On Sep-



***Above**: Modern image of the Commercial Slip in Buffalo, NY.*
***Below**: The new* Seneca Chief *canal boat n 2025.*

tember 24, 2025, the *Seneca Chief* will embark on

a Bicentennial Voyage from Buffalo to New York Harbor, retracing Clinton's original journey and celebrating 200 years of canal history.

Today, the canal between Rochester and Buffalo attracts boaters, kayakers, cyclists, and hikers. Towns along the route have embraced the canal as a cultural and economic asset, hosting festivals, farmers markets, and historic tours. The canal's

modern features, combined with its rich history, make it a living monument to American ingenuity and a vital part of New York's landscape.

Selected Sources:

A_Brief_History_of_the_Erie_Canal.pdf
References for The Erie Canal: Celebrating 200 Years of a National Landmark
History of the Erie Canal
https://www.americanhistorycentral.com/entries/erie-canal/
A Note on the Economic Viability of the Erie Canal, 1825-1860 | Business History Review | Cambridge Core
The Effects of the Erie Canal on the U.S. Economy - History in Charts
Economic Growth | New York Heritage
The Evolution of Canal Engineering: From the Erie Canal to Modern Waterways – Erie Canal Adventures
WNY History
Impact of Erie Canal on Rochester
The Changing Canal
Revised-Canalsides-Inner-Harbor-Walking-Route-2020.pdf
https://esd.ny.gov/sites/default/files/rfp/Erie-Canal-Bicentennial-Appendix-F-Erie-Canal-Western-Terminus.pdf
The Commercial Slip: The Last Stop on the Erie Canal - WNY Heritage

[End]

Feature Article

Seals and Signatures

Evidence of Responsible Charge by Design Professionals

Part 1 – Definition and Purpose of Seals

By Kevin O'Beirne

This is the first in a four-part series addressing sealing and signing of instruments of service by design professionals, comprised of: (a) Part 1 – Definition and Purpose of Seals; (b) Part 2 – Electronic Seals and Signatures; (c) Part 3 – Statutory Requirements Concerning Sealing and Signing of Documents; and (d) Part 4 – Practical Considerations Concerning Sealing and Signing.

Perhaps the most obvious means for an architect, engineer, or other licensed design professional to indicate that they were in responsible charge of preparing a certain document is application of their seal and signature. Application of seals and signatures to documents that comprise the design professional's "instruments of service" is typically mandated by laws and regulations governing the design professions in the United States and Canada. Indeed, issues concerning use of seals and signatures are common matters in malpractice cases brought before licensing boards. This series of articles addresses common sealing and signing requirements in the United States.

Terms such as, "'[architect] [engineer] of record" and "'[architect] [engineer] -in-responsible-control" are typically construed as having the same meaning as, "'[architect] [engineer] -in-responsible-charge". In many organizations, the terms are used interchangeably for a given design discipline. For convenience and uniformity, the term "responsible charge" is used in this article. Also, in this article, laws, rules, and regulations are referenced as either "laws and regulations" or "statutory requirements". Furthermore, the term "instruments of service" means the collection of documents, drawings, specifications, calculations, and other tangible materials produced by design professionals during the various stages of a project. (Source: Understanding Instruments of Service (aiacontracts.com))

Purpose of Seals and Signatures

Seals applied to a design professional's instruments of service are necessary to clearly indicate the licensed individual who served in responsible charge of the associated document. (See: "Responsible Charge: An Essential Concept for Design Professionals", previously published on this writer's blog.) The licensee's signature is typically added on, partially on, or immediately adjacent to the seal as a means of further communicating that the licensee, and no one else, applied the seal and signature. Clearly indicating the licensee who served in responsible charge is essential for several reasons including:

- Assuring the design professional's client, authorities having jurisdiction, and the general public that the person in responsible charge was appropriately licensed and registered, in accordance with laws and regulations.
- Indicating accountability for the associated professional services.
- Reducing the potential for individuals, not properly licensed and registered, from performing design professional services without serving under the responsible charge of a duly licensed individual.

Sealing and Signing the Work of Others

On occasion, especially in cases when the original licensee serving in responsible charge is no longer available, another licensee may be asked to seal and sign instruments of service for which they were not properly in responsible charge. Such individuals are commonly referred to as "successor engineer", successor architect", or other, generally similar term. Such a person needs to assume responsible charge for either the entire project or a designated portion of it. When a licensed design professional is assuming responsible charge as a "successor engineer", "successor architect", or successor in another design profession, additional requirements may apply before that person may serve in responsible charge of an ongoing project. For advice on this topic, see the article by David L. Pond, PE, in The North Carolina Bulletin, April 2012/Spring Issue. Laws or regulations governing the subject design profession in the jurisdiction where a given project is located may have specific requirements governing the proper designation of a successor design professional. For example, in New York State, Section 29.3.a.3.i of Part 29 ("Unprofessional Conduct") of the Rules of the Board of Regents, which pertains to architects, engineers, and other design professionals licensed by the state, addresses the matter as follows:

"a licensee who signs and seals documents not prepared by the licensee or by an employee under the licensee's direct supervision shall prepare, and retain for a period of not less than six years, a thorough written evaluation of the professional services represented by the documents, including but not limited to drawings, specifications, reports, design calculations and references to applicable codes and standards. Such written evaluation shall clearly identify the project and the documents to which it relates, the source of the documents and the name of the person or organization for which the written evaluation was conducted, and the date of the evaluation, and the seal and signature of the licensee shall also be affixed thereto; …"

Types of Seals Required

Throughout this article, the term "seal" is generally used. However, a metal ***seal*** is a device that provides a raised, embossed imprint on paper. In contrast, a ***stamp*** is a facsimile of the seal, often made of India rubber, attached to a wooden backing with a post-type handle. Stamps are inked and applied to paper or other reproducible materials such as vellum, mylar, and others. In modern practice, stamps are likely more common for design professionals than are raised (metal) seals, although laws or regulations in some states may expressly require one or the other. For example, Section 37.58 of Title 49, Chapter 37 of Pennsylvania Code, addressing the State Registration Board For Professional Engineers, Land Surveyors and Geologists, requires:

"(a) A registrant shall obtain, at the registrant's own expense, a seal in the identical design authorized by the Board…

"(d) A registrant may use a metal seal, rubber stamp, computer image which is a facsimile of the seal or digital seal, if the registrant first obtains a seal in accordance with this section."

However, Section 9.141.(a) of Title 49, Chapter 9 of Pennsylvania Code, addressing the State Architects Licensure Board, allows registered architects the discretion of obtaining and using either a metal seal or rubber stamp.

In New York State, Section 7209 (relative to professional engineering, geology, and land surveying) and Section 7307 (relative to architecture) of the State Education Law requires only a "stamp" applied to the design professional's instruments of service.

Statutory Requirements for Obtaining Seals

To practice one of the design professions and serve in responsible charge, an individual must be licensed, registered, have appropriate professional liability insurance, and acquire the appropriate seal or stamp, as applicable.

The National Council of Architectural Registration Boards (NCARB) publishes model statutory language governing the practice of architecture in the United States. NCARB Model Laws and Regulations state in part:

"Section 401. Seal

"1) Every Architect shall have a seal of an image authorized by the Board. The seal may be electronic. It is the responsibility of the Architect to provide adequate security over the use of the Architect's seal.

Section R401.0 of NCARB's Model Regulations states in part:

"R401.0 Design and Use of Architect's Seal

"1) Pursuant to Section 401 of the Act and subject to R501(C), each Architect must procure a seal, which shall contain the Architect's first and last name, the Architect's License number, and the words "LICENSED ARCHITECT— [NAME OF JURISDICTION]." This seal must comply in all respects, including size and format, with the seal shown below: [INSERT SPECIMEN SEAL IMPRINT.]

Similarly, the National Council of Examiners for Engineering and Surveying (NCEES) publishes suggested language for state and territorial laws and regulations governing the practice of professional engineering and land surveying in the United States. NCEES's Model Law (revised September 2021) Section 110.20 includes the following definition: "*K. Seal—The term "Seal," as used in this Act, shall mean a symbol, image, or list of information."* Section 140.10 of NCEES's Model Law further states, in part:

"D. Upon licensure, each licensee may obtain a seal. A licensee's seal shall contain the following:

"1. Jurisdiction of licensure

"2. Licensee's name

"3. License number

"4. The words "professional engineer" [and discipline]…"

Required Content and Layout of Seals

Whether of metal or a rubber stamp, design professional's seals are typically required to be 1.75 inches in diameter (although certain types of seals in some jurisdictions may be smaller) and, as indicated in the NCARB and NCEES model language, above, must indicate the type of license, the licensee's full name as it appears on their license and registration, and their license or registration number (as applicable). Each state's licensing board may mandate a certain design or graphic to be included within the seal. For example, design professional seals in New York State feature the New York Excelsior logo, while professional engineers' seals in Pennsylvania feature a keystone, which is the symbol of Pennsylvania, and registered architects' seals in Pennsylvania feature a column topped by a lamp, with other iconography. Presented below are selected examples from other jurisdictions:

Obtaining Seals

Upon securing licensure, each individual is responsible for obtaining their own metal seal, rubber stamp, or other means of applying their seal to instruments of service. Some years ago, seals could be acquired only through a limited number of retailers, often requiring several weeks to obtain. In the modern era, however, acquiring an architect's, professional engineer's, professional geologist's, or other type of design professional's seal is much easier and faster through online vendors. In August 2024, a brief online search revealed at least five different sellers of metal seals and rubber stamps for design professionals. Often, suppliers with an online presence can prepare and issue the metal seal or rubber stamp within a day or two, with the order delivered typically within a matter of days. Prices are usually reasonable, given that most design professionals need to purchase a metal seal or rubber stamp only once for each state where they are licensed. In August 2024, prices were: typical rubber stamp: $17 to $38; self-inking stamp: $25 to $43; desk top metal embosser: $40 to $53; and pocket metal embosser: $34 to $43. Other variations may be available, such as "long-reach" metal embossers, depending on the vendor. Variations in physical quality and robustness may potentially explain the range of costs among the various suppliers. Some suppliers also offer "digital stamps", which are really only a digital image file of the seal, available in various formats, including ".jpg", ".png", ".pdf", ".tif", ".dwg", and possibly others; such images typically cost approximately $10 to $15 each, although almost anyone with a rubber stamp and ink pad can easily create their own digital image of their seal.

Security

Upon obtaining their physical or digital seal, licensed design professionals should properly secure them, prohibiting access by non-authorized personnel. While it may be tempting for some busy licensees to keep their seal(s) in an unlocked desk drawer, perhaps so that a trusted subordinate can access them when so ordered, even when the licensee is unavailable, such temptation should be resisted. Because using a design professional seal is an essential representation of licensure and an assertion that the individual properly served in responsible charge of the sealed document, seals should be properly secured and not accessible by anyone other than the licensee. Failure to properly secure seals creates potential for misuse, with serious risk to both the licensee and the unauthorized person improperly

accessing the seal. For additional information on this topic, see: "Licensing Boards: Entities That Govern the Design Professions, Part 4 – Enforcement, previously published on this writer's blog.

Conclusions

Design professionals' seals and signatures are the principal means by which an architect, engineer, geologist, or other licensed design professional asserts their status as having served in responsible charge of the preparation of the associated document. Laws and regulations governing the design professions in every jurisdiction of the United States require the design professional serving in responsible charge to obtain a seal of the appropriate design and affix such seal, together with the licensee's signature (and possibly other information, such as the date of sealing and signing), to the associated document. Seals are available in various forms, including embossed metal seals, inked stamps, and electronic seals. Licensees should properly secure and safeguard their seals.

Forthcoming articles in this series will include: Part 2 – Electronic Seals and Signatures; Part 3 – Statutory Requirements Concerning Sealing and Signing of Documents; and Part 4 – Practical Considerations Concerning Sealing and Signing.

Kevin O'Beirne, PE, FCSI, CCS, CCCA is a professional engineer licensed in NY and PA with over 35 years of experience designing and constructing water and wastewater infrastructure for public and private clients. He is the engineering specifications manager for a global engineering and architecture design firm. He has been a member of various CSI national committees and is the certification chair of CSI's Buffalo-Western New York Chapter. He is an ACEC voting delegate in the Engineers Joint Contract Documents Committee (EJCDC) and lives and works in the Buffalo NY area. Kevin O'Beirne's LinkedIn page.

CSI®
BUFFALO-WESTERN NEW YORK CHAPTER

ARCHITECT SKI DAY

February 6, 2026

Holiday Valley Ski Resort
Holiday Valley Lodge (Main Lodge)
6657 Holiday Valley Rd., Ellicottville, NY 14731

SPONSORSHIP LEVELS

$2,000
PLATINUM

PLATINUM Sponsorship Includes:
* 6 Complimentary lift tickets.
* (2) 30" x 72" display table.
* Logo inclusion on all event marketing materials.
* Sponsor signage with logo at table.

$1,000
GOLD

GOLD Sponsorship Includes:
* 4 Complimentary lift tickets.
* 30" x 72" display table.
* Logo inclusion on all event marketing materials.
* Sponsor signage with logo at table.

$750
SILVER

SILVER Sponsorship Includes:
* 2 Complimentary lift tickets.
* 30" x 72" display table.
* Logo inclusion on all event marketing materials.
* Sponsor signage with logo at table.

$500
BRONZE

BRONZE Sponsorship Includes:
* 1 Complimentary lift ticket
* Prominent signage w/ logo on seating tables.
* Logo inclusion on all event marketing materials.
* (Display table not included at this level).

* Note: 1 Complimentary lift ticket can be substituted for 2 non-lift tickets at all sponsorship levels.

Almost 150 attendees exposed to our sponsors last year!

VISIT HERE TO REGISTER AS A SPONSOR ONLINE OR USE THIS FORM (Check and CC available through either method)

Contact **Brad Vaillancourt** with questions: membership@csibwny.com

Sponsorships due by: **October 5, 2025**

Company: _____
Contact Name: _____
Contact Email: _____
Contact Phone: _____

Credit Card/Check #: _____
Zip Code: _____ Security Code: _____
Exp. Date: ____/____/____ **Payment by check preferred