



May 2026

The Sage Report

A Monthly Newsletter of Insights, Projects, and Productivity



The Patience of the Plotter

There was a time when printing a drawing was an event. A pen plotter could take twenty minutes to produce a single sheet. You waited while the machine warmed up, listened to the carriage crawl across the paper, and hoped the pen didn't clog halfway through a leader line. If you are young enough to have never seen a plotter printing, check out this [video](#). Since every print cost time and materials, no one plotted until the sheet had been checked carefully. That slow process encouraged discipline. Drafters pored over their work because rushing only created more work.

Today the process is instant. A drawing can be exported, shared, and revised in seconds. That speed has changed expectations. Contractors want more detail on drawings than ever. In a litigious construction environment, they expect clear guidance on every component and every step. Clients expect complete documents with few or no errors. And because software allows us to draft faster, there is a natural assumption that each sheet can carry more content. A modern plan set is packed with notes, diagrams, details, and cross references that would have taken days to generate in the plotter era.

Fast technology is helpful, but it also removes the natural pause that used to force careful review. When revising a sheet takes no time at all, it is easy to send drawings forward before they are truly ready. That makes quality control even more important than it was years ago. The discipline once enforced by slow machines now has to come from the people doing the work.

The lesson from the old plotters is simple. Even in a fast, technology-driven industry, the responsibility to slow down, check your work, and confirm that every sheet says exactly what it needs to say has never gone away. In many ways, it matters more now than it ever did.



Welcome to Our New Team Members

Sage Engineering is pleased to welcome several new employees to the office. Each brings a different background, skill set, and perspective that will help support our continued growth.

Ryan Ackerman recently joined Sage as an Electrical Engineer. Ryan holds a Bachelor of Science in Electro-Mechanical Engineering from Pennsylvania State University, Altoona. Before joining Sage, Ryan worked as an Electrical Engineering Intern with Colliers Engineering & Design, where he developed electrical plans for commercial buildings using AutoCAD and Revit.

Christina Smith will join Sage as Office Manager on May 18. She brings extensive administrative and operational experience from her role as Facilities Coordinator at Bassett Healthcare Network, as well as prior roles in office management, insurance, inside sales, bookkeeping, and executive support. At Sage, Christina will help manage and strengthen the firm's day-to-day administrative operations. Her role will support office coordination, staff onboarding, hiring logistics, internal communications, proposal and marketing support, recordkeeping, vendor coordination, and other administrative systems that help the office run smoothly.

Lucas Ferry will join Sage as an Electrical Engineer on May 18. Lucas recently graduated with a B.S. in Electrical Engineering Technology from SUNY Polytechnic Institute. He will sit next to Aidan and work with the security engineering project team on OGS and DOCCS security camera projects.

Nathaniel Cross will join Sage as a Mechanical summer intern on May 18. Nathaniel is pursuing a Bachelor of Science in Mechanical Engineering at Binghamton University. He will sit in the double cubicle in the mechanical department.

Amanda Rundell will join Sage as a Mechanical summer intern on June 1. Amanda is pursuing a Bachelor of Science in Mechanical Engineering with a minor in Business at Cornell University. She will also sit in the mechanical department double cubicle.

Please take a moment to welcome Ryan, Christina, Lucas, Nathaniel, and Amanda as they get settled.



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Delegated Design In New York – What it Really Requires

Delegated design is often treated as a convenience in construction documents. In practice, it is not a shortcut. In New York, it is a defined process that still requires the Engineer of Record to establish the design intent, confirm the approach is viable, and verify that the final design integrates with the building. The responsibility does not shift. It expands.

What New York Requires

The Engineer of Record must:

- Provide clear written performance criteria defining the delegated scope
- Limit delegation to specific components, not entire systems
- Ensure the work is performed by a New York licensed design professional
- Perform a written review of the delegated design confirming:
 - Conformance with the specified criteria
 - Compatibility with the structural system
 - Ability to be integrated into the project

The delegated designer must provide signed and sealed drawings and calculations, along with certification that the design meets the specified criteria and applicable codes.

Performance Criteria – Where Projects Break Down

A note that says “Contractor to design” or “provide engineered design” is not sufficient.

Performance criteria should clearly define:

- Applicable codes and design standards
- Design loads and load combinations
- Geometry, spans, and support conditions
- Deflection, vibration, and serviceability limits
- Material and durability requirements
- Interface requirements with structural and MEP systems
- Required submittals, certifications, and inspections

If the contractor has to interpret the design basis, the documents are incomplete.

Proof of Concept Still Matters

Delegated design does not eliminate the need for engineering judgment during design.

- The Engineer of Record is still responsible for establishing a **reasonable basis of design** before delegation occurs.
- A system cannot be conceptually based on a 3-5/8" 16 gauge stud wall if calculations ultimately require a 6" stud
- Framing layouts, load paths, and system depths must be **realistic and achievable**, not placeholders
- MEP components must have suitable geometry and attachment points.

Delegation is not a substitute for preliminary design validation. It is an extension of it.

Where Delegated Design Typically Appears

Common specification sections include:

- 05 12 00 – Structural Steel (connections)
- 05 40 00 – Cold-Formed Metal Framing
- 05 50 00 – Metal Fabrications
- 06 17 00 – Wood Trusses
- 07 / 08 – Curtain Wall and Panel Systems
- 13 34 19 – Metal Building Systems
- Division 23 / 26 – Seismic bracing and equipment anchorage
- Specialty systems such as fall protection, equipment supports, and screens

Not all shop drawings are delegated design. The distinction is whether engineering responsibility is explicitly transferred.

Review vs. Acknowledge

In New York, delegated design requires **review**, not acknowledgement.

The NYS Office of the Professions requires the Engineer of Record to review the delegated design in writing and determine that it conforms to the specified criteria and can be integrated into the overall project. That review should include a clear disposition such as **approved, approved as noted, or revise and resubmit**. A “for record only” or general conformance review is not sufficient for delegated design. Additional information on Design Delegation per the NYS Office of the Professions Guidelines can be found [here](#).



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Interpreting Market Value Under 2025 NYS Energy Code C503.6

Section C503.6 of the New York State Energy Conservation Construction Code introduces a simple trigger with real consequences: if an alteration qualifies as a **substantial improvement**, additional C406 energy credits are required, which can be a major undertaking and sometimes difficult for an existing building. The trigger is based on one comparison: Project Cost vs. 50% of Building Market Value. If the cost exceeds 50% of the market value then C406 applies.

The Gap in the Code

The code establishes that Market Value applies to the building only, not land or site and that the comparison is made before the improvement. However, there is no prescribed methodology in the NYS Energy Code for determining that value and there is currently no formal guidance from NYS DOS on acceptable approaches.

What Happens in Practice

For typical commercial buildings with active sales markets, valuation can be derived from:

- Assessment data
- Comparable sales
- Appraisals

But for many projects we see across New York State, that breaks down quickly:

- State-owned facilities
- Correctional facilities
- Campus buildings that cannot be sold independently

These buildings do not have a meaningful open-market value.

The Most Logical Proxy: Replacement Cost

While not defined in the code, replacement cost (adjusted for age and condition) consistently emerges as the most rational and defensible approach. Why it works:

- It isolates the building itself, consistent with the code definition
- It excludes land, location, and business value
- It can be applied consistently across unique or non-market buildings
- It aligns with how similar 50% thresholds are handled in other regulatory frameworks

That said, it is important to be clear: Replacement cost is not codified. It is a logical, defensible method, not an officially mandated one.

Office-to-Lab Example

A common concern is how to treat major upgrades, such as: Office building → laboratory conversion

Intuitively, the building is becoming far more valuable. But for C503.6:

- The comparison is based on the existing building condition
- Not the upgraded lab condition
- Not the future program value

Using post-renovation value would artificially inflate the denominator and undermine the intent of the code.

Recommended Approach for Design Teams

Given the lack of prescriptive guidance, a consistent process is critical:

- Select a reasonable and defensible valuation method (Replacement cost is typically the most appropriate)
- Document assumptions clearly (Basis of value, Scope of work included in project cost)
- Review the approach with the AHJ early

Keep It Simple in the Documents

The goal is not to overcomplicate this. Once the evaluation is complete and agreed upon, the documentation can remain straightforward. A concise note on the drawings on the Code sheet or Code Summary is typically sufficient:

“2025 NYS ECCCNY C406 Energy Credits not applicable. Value of proposed work does not exceed 50% building value threshold per NYS ECCCNY C503.6.”

This keeps the intent clear without introducing unnecessary complexity into the contract documents.

Bottom Line

Until formal guidance is issued, this remains a judgment call on every project. The key is not just picking a method, but being able to explain and defend it.



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UPCOMING LIVE WEBINARS AND SEMINARS

This month's lists of free live webinars and seminars is below. Each offers at least one PDH and qualifies as a *Course of Learning* – a format that includes traditional classroom-style courses or live webinars with real-time interaction with an instructor. As a reminder, New York State requires that 18 of the 36 total continuing education hours for professional engineers be completed through *Courses of Learning*.

All webinars listed below are free. The ASHRAE and ASPE meetings are in-person and have a cost of \$50 which reimbursed by Sage for Sage employees.

Date	Topic	Host	Time (ET)	Registration Link
May 6	Fundamentals of Lateral Earth Pressures Every Engineer Should Know	NoonPi	1:00 PM – 2:00 PM	Register here
May 7	Practical Data Center Fire Protection: From Technology Selection to Implementation	Consulting-Specifying Engineer	2:00 PM – 3:00 PM	Register here
May 12	Advanced Motor Control Strategies for Water Pumping Applications	Consulting-Specifying Engineer	2:00 PM – 3:00 PM	Register here
May 12	The Battery Electric Vehicle Meets the Clean Energy Challenge	NoonPi	1:00 PM – 2:00 PM	Register here
May 12	ASHRAE Northeast May Meeting – The (Un)Ethical Engineer (In-Person)	ASHRAE Northeast Chapter, Joint Meeting with ASPE and AEE	12:00 PM – 1:30 PM	Register here
May 14	Power Distortion: The Silent Threat to Data Center Uptime	Consulting-Specifying Engineer	2:00 PM – 3:00 PM	Register here
May 20	The Brains Behind the Transfer: Modernizing ATS Controls for Critical Power Systems	Consulting-Specifying Engineer	2:00 PM – 3:00 PM	Register here
May 20	Distributed Energy Resources: Technical Foundations and Relevant Standards	OhmGurus	12:00 PM – 1:00 PM	Register here
May 20	The Effects of Fire on Post-Installed Rebar	Hilti	11:00 AM – 12:30 PM	Register here
May 21	Integrating Lighting and Controls with Practical Applications	Consulting-Specifying Engineer	2:00 PM – 3:00 PM	Register here
May 27	Quality Control Review of Firestopping Systems	Hilti	11:00 AM – 12:30 PM	Register here
May 28	Engineering Out Legionella: Foundations and Design Responsibility	Caleffi (Coffee with Caleffi)	1:00 PM – 2:00 PM	Register here



Replace AHU-030 & AHU-033

University at Albany Bioscience Development Corp (UABDC), Rensselaer, NY

Construction is nearly complete on the UABDC AHU-33 replacement project, a roughly \$900,000 upgrade that replaced two aging 100% outdoor air units with a single air handling unit. The original AHU-30 and AHU-33 installation was extremely difficult to maintain. The units were installed side by side in a cramped basement mechanical room, with poor access to filters, coils, motors, and piping. The existing steam heating coil had frozen, burst, and been repaired multiple times, and coil removal was not practical because of the tight surrounding conditions.

Replacing two units with one allowed the design team to make better use of the available room geometry. The replacement unit was arranged in two different width sections. The smaller section contains components where higher air velocity is acceptable, including the heating coil. Since a heating coil does not create condensate, moisture carryover is not a concern. The cooling coil was placed in a wider section to reduce face velocity and limit condensate carryover, which is especially important for a 100% outdoor air system.

Fan wall technology was also used to minimize individual fan size and reduce the depth required for the fan section. Because the access route was limited, the larger air handler sections were broken down into panels and assembled in place. The drawings defined the clear path into the building and mechanical room, including dimensional constraints needed for rigging and installation.

The heating approach was also changed to improve reliability. Instead of using steam directly at the AHU coil, steam was routed from the basement mechanical room to a heat exchanger and pump package on the floor above. The system converts steam to propylene glycol hot water, then pumps it back down to the AHU heating coil. This provides better temperature control and improved freeze protection in the outdoor air stream. Existing hot water duct coils were also incorporated into the reheat sequence to support humidity control after cooling.

Construction phasing required a temporary air system. Flexible ductwork was routed through the exterior areaway to maintain ventilation while the permanent unit was installed. The temporary setup had limited controls, so discharge air temperature was controlled indirectly by adjusting the leaving water at the new heat exchange.

Overall, the project shows how thoughtful engineering, field coordination, and equipment selection can solve difficult space, access, freeze protection, and humidity-control challenges in an existing building.



Previous Two Air Handling Units (prior to removal)



New Single Air Handling Unit



Steam to Hot Water Heat Exchanger (in Room Above)



Temporary AHU