



May 2025

The Sage Report

A Monthly Newsletter of Insights, Projects, and Productivity

The Power of Service: The Key to Our Success

by David Layton, Principal

Over the last five years, Sage Engineering has seen tremendous success. We have grown, taken on larger and more complex projects, and strengthened relationships with long-standing clients while forging new ones. A strong economy and a favorable project climate have certainly helped, but I believe our success is about more than just opportunity. It is about something deeper, something we have built over years of working together.

Many of us have been at Sage for 15 years or more. That kind of longevity is not common in this industry, and it is a big part of why we have thrived. The shared experience, mutual respect, and sense of camaraderie we have developed create a natural efficiency in how we work. We know each other's strengths, communicate well, and trust that the person next to us will do their part. This is not just a workplace; it is a team. But even beyond that, I believe our greatest advantage has been something that has become increasingly rare: **a true commitment to service.**

Why Service Sets Us Apart

Service, at its core, is about care; care for the work we do, care for our clients, and care for each other. It is the extra effort to be responsive, the willingness to solve problems before they escalate, and the ability to make clients feel like they are in good hands.

As Theodore Roosevelt said,

"People don't care how much you know until they know how much you care."

That mindset has always been part of Sage, but in recent years, it has become even more valuable. Across industries, service and hospitality have declined. In a world that has become increasingly transactional, where businesses prioritize efficiency over relationships, genuine care stands out more than ever.

Yet, no matter how much things change, one thing remains constant: people still want great service. Whether they are hiring an engineering firm, staying at a hotel, or just going out to dinner, clients want to work with people who listen, respond, and follow through. Employees want to feel valued and supported. And because truly great service has become so rare, it is now one of our greatest competitive advantages.

As the saying goes,

"If you don't take care of your customers, someone else will."

Where We Go From Here

As we move forward, we should never lose sight of what has made us successful. Yes, technical expertise matters. Yes, the right projects at the right time have helped. But what has really set us apart, what keeps clients coming back, is the way we serve.

Let us continue to use that to our advantage. Let us keep building on the culture of trust, respect, and responsiveness that we have worked so hard to create. The best way to ensure our future success is to keep doing what got us here in the first place. I know I speak for the other principals when I say that we are incredibly proud of this team and the company we have built together. Keep up the great work!

THE SAGE BRIEFING

New Employees

We're pleased to welcome **Luke Danzig** to Sage Engineering as a full-time Electrical Engineer, starting this May. Luke is graduating from Rensselaer Polytechnic Institute with a degree in Electrical Engineering, concentrating in Robotics and minoring in Economics. Originally from Rochester and now living in the Albany area, Luke brings hands-on experience in CAD, 3D printing, and electrical prototyping. Luke will be sitting across from Luke Bowling. We're excited to have him on board!

Also, welcome **Ani Gregori Asadourian**, a Mechanical Engineering student at Tufts University, joining Sage as a summer intern. Ani is from Latham and brings a blend of technical and creative skills, with experience in CAD, Python, and sustainable design. Her work has been recognized nationally, including a Samsung Solve for Tomorrow finalist project that combined filtration, solar power, and 3D printing. Ani will be joined by four Union College interns in June. Introductions coming in next month's newsletter.





When is a Wall Not a Wall?

What MEP Engineers Need to Know About Fire- and Smoke-Rated Assemblies

To an MEP engineer, a wall might just look like something you run ductwork or conduit through—but in code terms, that wall could be a critical piece of the building's life safety system. Misidentifying it can result in failed inspections, compromised performance, or fire/smoke spread. This article breaks down the different types of fire and smoke-rated walls, how they're built, and what they mean for utility coordination.

Corridor Walls

Code Section: IBC [1020.1](#) & [708.1](#)

Rating: 1 hour in un-sprinklered buildings; No rating in sprinklered Group B/E per exceptions

How They're Built: Often a single layer of 5/8" Type X gypsum board on each side of steel studs. In some cases, may be a rated assembly with resilient channels or shaft liner panels. Rated doors with closers are required in rated corridors.

MEP Implication: Corridor walls are easy to overlook—but they may be rated fire partitions. Check the life safety plans. If required to be 1-hour rated, you'll need firestopping and may need fire dampers, unless IBC [717.5.4](#) exception applies.

Fire Partitions

Code Section: [IBC 708](#)

Rating: 1 hour

How They're Built: Commonly a single layer of Type X gypsum on each side of light gauge metal studs, floor-to-ceiling or slab-to-deck, depending on continuity requirements. May terminate at rated ceiling if allowed.

MEP Implication: Requires UL-listed firestop systems at all penetrations. Ducts may require fire dampers, but if in a fully sprinklered Group B/R building with a fully ducted system, [717.5.4](#) allows exceptions.

Fire Barriers

Code Section: [IBC 707](#)

Rating: 1 or 2 hours

How They're Built: Framed with steel studs or masonry, these walls extend full height from floor to underside of structure above—no rated ceiling substitutes allowed. Often include multiple layers of Type X gypsum, shaft liner panels, or CMU for higher ratings.

MEP Implication: Ducts penetrating fire barriers generally require fire dampers, unless fully ducted in a sprinklered Group B/R building ([717.5.4](#)). All other MEP systems must be firestopped with listed assemblies.



FIRE WALL: This is a type of wall that resists fire from the exterior of the building. It contains the flames in the area of origin to ensure that it does not spread.

- Most Stringent type of Fire Separation
- Separates x2 separate Construction Types
- Allows for an increase in area
- Continuous from foundation to/through roof and exterior wall to/through exterior wall

REBOLLAR Architecture

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FIRE BARRIER: These are walls inside a building that subdivide specific rooms and floors. The vertical assembly partitions extend from the floor up to the ceiling.

- Must go from Floor Structure to Ceiling's Structure
- Made from Non-Combustible Materials
- Separates occupancies & Storage Rooms

REBOLLAR Architecture

Proj. Planning+Design, Dvlp+Documentation (PPDD) — Review Deck
Revision Date: 26 MAY 2021



FIRE PARTITION: These are walls inside a building that subdivide specific rooms and floors. The vertical assembly partitions extend from the floor up to the ceiling.

- Can be made of wood
- Doesn't need to go to structure
- Can essentially create 'tunnels'
- May terminate at a fire rated floor/ceiling/roof assembly
- Used in Dwelling Unit Separations; Corridors

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When is a Wall Not a Wall? – cont'd

What MEP Engineers Need to Know About Fire- and Smoke-Rated Assemblies

Fire Walls

Code Section: [IBC 706](#)

Rating: 2–3 hours

How They're Built: Heavily constructed—usually CMU, cast-in-place concrete, or multiple layers of Type X on both sides of shaftliner panels. Fire walls must be structurally independent and extend from foundation to above the roof, with parapets in many cases.

MEP Implication: Avoid penetrating unless absolutely necessary. If you do, maintain both the rating and structural continuity. Firestop with listed systems, and coordinate with structural engineer.

Shaft Enclosures

Code Section: [IBC 713](#)

Rating: 1 or 2 hours, depending on story count

How They're Built: Usually framed with shaftwall studs and liner panels, with one side built from within the shaft. Must be continuous from floor to floor and terminate at structure.

MEP Implication: Penetrations must be tightly coordinated. Ducts often require combination fire/smoke dampers at each floor level. Pipe and conduit penetrations must use listed firestop systems, with sleeves if needed.

Smoke Barriers

Code Section: [IBC 709](#)

Rating: 1 hour

How They're Built: Similar to fire partitions, but with stricter continuity and smoke-sealing. One layer of Type X gypsum per side minimum. Must be continuous and smoke-tight.

MEP Implication: Smoke dampers are usually required at duct penetrations, unless in a sprinklered building with fully ducted systems ([717.5.5](#) exception). Firestop systems must limit smoke migration as well as fire.

Smoke Partitions

Code Section: [IBC 710](#)

Rating: No fire rating, smoke-tight only

How They're Built: One layer of gypsum on each side of metal studs. Doors are not rated but must limit smoke (gaskets, closers).

MEP Implication: Ducts may still require smoke dampers, depending on occupancy and system type. Penetrations must be sealed to prevent smoke leakage, even

Wall Type	Rating	Typical Construction	Duct Requirements	Penetration Requirements
Corridor Wall	0–1 hr	Type X gypsum both sides; rated ceiling if allowed	Fire damper unless 717.5.4 exemption	UL firestop or smoke seal if required
Fire Partition	1 hr	Type X gypsum, may terminate at rated ceiling	Fire damper (717.5.4 exemption)	UL-listed firestop
Fire Barrier	1–2 hr	Multi-layer gyp or CMU, slab-to-deck	Fire damper (717.5.4 exemption)	UL-listed firestop
Fire Wall	2–3 hr	CMU, shaftliner, concrete, independent structure	Avoid if possible	Firestop + maintain structural role
Shaft Enclosure	1–2 hr	Shaftliner panels, built from inside	Fire/smoke dampers	UL firestop, sleeves if needed
Smoke Barrier	1 hr	Type X gypsum, continuous and sealed	Smoke damper (717.5.3 exemption)	Smoke-tight firestop
Smoke Partition	None	Standard gyp wall with smoke gasketing	Smoke damper (717.5.3 exemption)	Smoke-tight seal



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UPCOMING WEBINARS AND SEMINARS – MAY 2025

A list of free live webinars and seminars. 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*.

Microgrid Interconnection Devices for Emergency Systems

Host: Consulting-Specifying Engineer (CSE)

Date: May 1, 2025 | Time: 2:00 PM – 3:00 PM ET

Format: Webinar | Credits: 1.0 PDH / 0.1 CEU | Cost: Free

[Register Here](#)

How Radiant Solutions Provide Environmental, Safety, and Comfort Advantages in Outdoor Applications

Host: HPAC Engineering / Schwank

Date: May 1, 2025 | Time: 2:00 PM – 3:00 PM ET

Format: Webinar | Credits: 1 PDH (Certificate available) |

Cost: Free

[Register Here](#)

Renewing Your Renewables: Modernization Considerations

Host: Association of Energy Engineers (AEE)

Date: May 6, 2025 | Time: 11:00 AM – 12:00 PM ET

Format: Webinar | Credits: 0.2 AEE credits (for renewal) |

Cost: Free (Members)

[Register Here](#)

Dust Collection System Design: Electrical Controls

Host: Donaldson Company

Date: May 6, 2025 | Time: 12:00 PM – 1:00 PM ET

Format: Webinar | Credits: 1 PDH (Certificate available) |

Cost: Free

[Register Here](#)

IEEE PES Webinar: 2024 Top 5 Papers of IEEE Transactions on Smart Grid

Host: IEEE Power & Energy Society

Date: May 7, 2025 | Time: 9:00 AM – 10:00 AM EDT

Format: Webinar | Credits: None | Cost: Free

[Register Here](#)

Alternative Technologies for Energy Resiliency & Grid Relief

Host: Consulting-Specifying Engineer (CSE)

Date: May 13, 2025 | Time: 2:00 PM – 3:00 PM ET

Format: Webinar | Credits: 1.0 PDH / 0.1 CEU | Cost: Free

[Register Here](#)

Don't Let Your Next Operating Room Project be a Disaster

Host: Price Industries

Date: May 13, 2025 | Time: 1:00 PM – 2:00 PM EDT

Format: Webinar | Credits: 1 PDH | Cost: Free

[Register Here](#)

BMS Basics for Consulting Engineers

Host: ASHRAE High Performing Buildings (HPB)

Magazine (sponsored by Carrier)

Date: May 14, 2025 | Time: 11:00 AM – 12:00 PM EDT

Format: Webinar | Credits: 1.0 CEU (approved) |

Cost: Free

[Register Here](#)

ASPE Capital Region NY Monthly Meeting – Topic TBD

Host: ASPE Capital Region NY Chapter

Date: May 15, 2025 | Time: 11:30 AM – 1:15 PM ET

Format: In-Person | Credits: TBD (PDH may be

available) | Cost: \$40 (General), \$50 (with PDH)

Location: 257 Washington Ave Ext, Albany, NY 12205

[Register Here](#)

Applying VRF to Various HVAC Applications

Host: ASHRAE High Performing Buildings (HPB)

Magazine (presented by Carrier)

Date: May 29, 2025 | Time: 11:00 AM – 12:00 PM EDT

Format: Webinar | Credits: None listed | Cost: Free

[Register Here](#)

Energy Auditing Trends and Advice from Industry Experts

Host: Association of Energy Engineers (AEE)

Date: May 30, 2025 | Time: 12:00 PM – 1:30 PM ET

Format: Webinar | Credits: 0.3 AEE credits (for

renewal) | Cost: Free (Members)

[Register Here](#)



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Chiller and Cooling Tower Replacement

Sage Team: John V, Steve P, Mike

DMNA Headquarters, Latham, NY

This project involves the full replacement of the central chilled water plant serving the New York State Division of Military and Naval Affairs (DMNA) Headquarters in Latham, NY. The scope includes demolition of the existing centrifugal chiller and grade-mounted cooling tower, replacement with a new modular chiller system and a high-performance fiberglass-reinforced plastic (FRP) cooling tower, and reconfiguration of the chilled water piping system.

Sage Engineering Associates provided mechanical and electrical design services for the project. Adelaide Environmental completed the hazardous materials testing and abatement design. The selected chiller system is a Multistack modular water-cooled unit utilizing a Group A2L refrigerant, marking Sage's first implementation of an A2L refrigerant chiller system. The refrigerant change occurred after bidding, requiring post-bid design accommodations including revised ventilation for refrigerant safety and extended chiller procurement lead time.

The FRP cooling tower, supplied by TowerTech, is corrosion-resistant and uses a sump located indoors for improved freeze protection.

Other improvements include:

- Replacement of chilled water and condenser water pumps
- Correction of an inefficient piping loop introduced during a 2006 building addition
- Full integration with the existing Trane building management system
- Crane-assisted rigging of new equipment through rooftop access doors

The estimated construction value is approximately \$1.6 million and is being installed by Campito Plumbing & Heating. The system is scheduled to be operational by May/June 2025.

