ASPE American Society of Plumbing Engineers
SOUTHWESTERN OHIO

Newsletter

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Chapters are not authorized to speak for the Society

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September CHAPTER MEETING

Date: **TUESDAY, September 9, 2025**

Location: **Countryside YMCA**
1699 Deerfield Rd
Lebanon, OH 45036
Tel 513.932.1424

Cost: **$20** online

Schedule: **11:30PM-1:30PM**

Special Waste Piping Systems

Reservations: Make a reservation and pay for the meeting through the Chapter Website or email Bill Berger at bill.berger@kohler.com or John Fox at jfox@mwspec.com before ***noon*** on **MONDAY, September 8th,** so that a head count can be established. As always, guests are welcome.

LOOKING AHEAD

Chapter Meetings to be held at Countryside YMCA, Lebanon, OH unless noted otherwise.

Special Waste Piping – September 9, 2025
ASPE Symposium Orlando – September 24 – 28, 2025

The *ASPE Newsletter* is published by the Southwestern Ohio Chapter of the American Society of Plumbing Engineers. Opinions expressed herein are those of the authors and do not necessarily reflect the views of the Society, the Chapter or the Editor.

Presidential prose…

Welcome back everyone!

First, we have big news that our Kentucky Bluegrass satellite chapter has been granted a full charter by the ASPE Board of Directors. They are now granted their own delegates to be sent to the biannual ASPE business meeting with voting powers. This is a great step for them and I encourage any affiliate members who have territory in Kentucky to carry dual memberships for both Southwest Ohio and Kentucky Bluegrass. Please see VP membership, Brian Selander, for how to add multiple chapter affiliations to your membership.

Over the summer it was great to see many of you at the tour of Sonder Brewing and at the Dayton Dragons game. We may have to make Sonder a regular event, the brewmaster was great in his explanation of his processes. All very scientifically based. The Dragons had a nice turnout with several families there. Thanks to the sponsors of the Dragons who purchased ticket and food packages.

We have the entirety of our educational meetings planned out through January. These are all on our website, southwesternohioaspe.org, for your planning purposes. Meetings are all currently scheduled to be held at our usual time of noon at the Countryside YMCA in Lebanon.

Lastly, the ASPE Technical Symposium will be held in Orlando in just a few weeks. This is ASPE's premiere educational event with days of classes over all topics plumbing. Personally, I earn most of my PE and CPD continuing education credits at this event. I highly recommend it to anyone who can attend.

Upcoming Events:
First meeting of the 2025 - 2026 season – September 9, 2025
ASPE Technical Symposium 2025 – September 24-28, 2025 - Orlando, FL

Thanks for being here, we like having you.

– Andrew Hemmelgarn
President

Looking to stay in touch with the Chapter

www.southwestern-ohio.aspe.org

Technically Speaking…

Technically Speaking

September

I hope everyone had as good a summer as I did! I hope everyone is as excited for fall as I am too. Sports, cooler temps, malty beers, apple cider, and procrastinating Halloween costumes until the 29th is what it's all about. Currently looking for inspiration on that, so if anyone has ideas let me know.

Our September presentation is brought to us by Cameron Baucom with Charlotte Pipe. He'll be presenting "Special Waste Piping Systems" and will teach us all about lab wastes, special waste applications, and the piping systems required for them. Obviously this is valuable for anyone doing work for laboratories, but if you have any kind of special waste work I recommend stopping by.

Cheers,

– James Fiorini
VP, Technical

The Southwestern Ohio Chapter would like to wish a

Happy Birthday

to the following members celebrating their birthday this month:

David Dexter, Sean Duffy, Michael Heaton and Daniel Ross

And the Chapter would like to wish a

Happy Anniversary

to the following members commemorating their ASPE anniversary this month:

Regina Condy, Jon Hall and Paul Rice

Legislative lingo…

Dialysis in Patient rooms
Had a lot of requests to put Dialysis boxes in patient rooms. Running into some grey area of the code that I see interpretations of on existing drawings. I wanted to spark discussion to get other points of view. First off, what code(s) applies specifically to Dialysis? FGI helps to define the space but not much on the plumbing outside of water quality requirements. Those are also more directed to dedicated Dialysis suites and typically have a dedicated RO. I am not writing about those; I am writing about portable dialysis machines with portable RO machines between the potable water and the dialysis in a patient room. Section 608 Protection of Potable Water System applies to protect the potable water from the "hazard" of the dialysis/RO setup. Specifically 608.3.1 shown below has "hospital fixtures" but it is not clearly defined. I am suggesting that dialysis equipment falls under "hospital fixtures" umbrella and therefore needs to be protected. Most machines I have seen recently have an "integral air gap" but no further information to give me a warm fuzzy that the system is protected That "meets" the requirements below if it is a true air gap as defined by code. If that machine is replaced by one that does not have the integral air gap or if that integral air gap is not functional, then what is protecting the potable water system? My 'belts and suspenders' solution are an RPZ or Vacuum Breaker. The push back recently is 'my current facilities' dialysis boxes don't have those'. Just because it exists doesn't mean it is right. I am not 100% sure I am right, just falling on the side of caution. I am protecting the potable water supply, myself, the owner and the patient. Phew, if you got this far, thanks for your time and I look forward to further dialogue with you.

2024 OPC
608.3.1 Special Equipment, Water Supply Protection
The water supply for hospital fixtures shall be protected against backflow with a reduced pressure principle backflow prevention assembly, an atmospheric or spill-resistant vacuum breaker assembly, or an air gap. Vacuum breakers for bedpan washer hoses shall not be located less than 5 feet (1524 mm) above the floor. Vacuum breakers for hose connections in health care or laboratory areas shall be not less than 6 feet (1829 mm) above the floor.

– Jeremy M. Williams PE, LEED AP BD+C
VP, Technical

Membership musings…

Welcome back everyone! I would say Fall is upon as summer has let up, at least briefly. Hopefully everyone is enjoying it while they can and getting ready for football (or rugby). Don't forget the ASPE Tech Symposium is a little less than 1 month away in beautiful Orlando, Florida if you can make it.

Our next chapter event is Tuesday, September 9th on Special Waste Piping Systems from 12-1pm at Countryside YMCA in Lebanon. I'm looking forward to getting to see everyone again and hear about how your summers went.

Lots of renewals have happened since our last article and we'd like to acknowledge these folks for their continued support to our local chapter: Carl Christy, Michelle Ens, James Fiorini, Pam McGill, Daryn Meadows, Izsak Rapp, Steve Savage, Ben Weingerger, Ben Cahall, Suellen Hugan, Benjamin Scott. Thank you all!

Our total membership is up slightly after a few more renewals have come in over the summer break and one new member, Nathan Yorke. Thank you for joining the team, Nathan, we're looking forward to meeting you soon. We're at 107 members made of 59 Full members, 15 Associate members, 30 Affiliate members, 2 Life members, and 1 Retired member.

Total Membership		
	Aug. 24	Aug. 25
Buffalo-Niagara	42	45
Central Indiana	132	132
Central Ohio	110	128
Cleveland	96	99
Eastern Michigan	110	120
Johnstown	31	36
Kentucky Bluegrass	30	36
Pittsburgh	97	104
Rochester	85	83
Southwest Indiana	37	40
Southwestern Ohio	106	107
Toronto	106	117
Western Michigan	83	96
Region 2 Total:	1,065	1,143

Thanks,

– Brian Selander
VP, Membership

PLUMBING SYSTEMS: COMMERCIAL IRONHEART PR

INDUSTRIAL SALES COMPANY, INC.
SHAWN COFFMAN,
SCOFFMAN@INDUSTRIALSALESCO.COM
OFFICE, 614-882-1916, EXT 1015
CONTACT US FOR LOCAL ENGINEER DESIGN SUPPORT, QUOTATIONS, PARTS AND FIELD START-UP AND TECHNICAL SUPPORT.

SyncroFlo
Pumping System Solutions

ISCO
INDUSTRIAL SALES CO., INC.

Covering Cincinnati, Dayton, Toledo, Columbus and Northern Kentucky (Lexington, Louisville...)

FOR WHERE IT REALLY MATTERS

SyncroFlo is based in Norcross, GA with over 50 years of experience manufacturing packaged pumping systems and the first to prepackage pumping systems for boosting pressure in domestic water distribution systems. The "IronHeart," which has been the core of our business since 1985, has been the industry standard for pressure boosting domestic water in commercial buildings. We offer 32 standard models featuring close coupled end suction pumps configured in duplex and triplex models with flow rated to 750 GPM and boost pressures to 190 PSI.

WHY A SYNCROFLO PRE PACKAGED SYSTEM?

All SyncroFlo IronHeart systems are manufactured to the highest standards within the 155,000 square foot facility. SyncroFlo has a superior Quality Management System that is ISO 9001:2015 certified. All systems bear the UL & ETL labels and are certified to UL 778 and UL 508A standards. All our domestic water systems including the IronHeart line are NSF/ANSI 61, 372 & Annex G certified for drinking water applications. Control panels are assembled in a UL 508A panel shop with a QR (Quick Reference) code identification for web based access to the project documents. All systems are factory tested in a NIST traceable test stand and the results are recorded for generation of an XY plot.

QUALITY CONTROL AND TESTING!

SyncroFlo's quality control program is on the leading edge of technology for our industry. Each system is tracked at all stages of manufacturing, assembly, and testing with web based reporting via hand held devices. All welding is performed by AWS or ASME qualified welders. Once manufacturing and assembly are complete, the system is connected to our NIST calibrated test rig. We then hydrostatically test and flow test from zero to 100% of design and under specified suction and net delivery pressures. Once on site, your only surprise is how easy the system is to startup and commission.

Through the pipes…

● **Planning Guide Is Now Available**

Are you getting excited about the 2025 ASPE Tech Symposium? The new Planning Guide is now available, providing details on the Technical Education Program, the Sponsors who will be exhibiting at the Product Show, the AYP Leadership Academy, and the hotel block. Be sure to register soon to take advantage of the early bird discount.

● **ASPE Announces the Dynamic Education Program for the 2025 Tech Symposium**

ASPE is pleased to announce the release of the 2025 ASPE Tech Symposium Technical Education Program which features 40 sessions designed for plumbing industry professionals at all career levels. Each 90-minute session offers 0.15 CEUs, giving you an opportunity to earn up to 1.2 CEUs that can be used for your continuing education requirements.

The 2025 ASPE Tech Symposium Technical Education Program is presented in five tracks:

1. Codes & Standards/Water Quality
2. System Design
3. Sustainability/Construction Discussion
4. Healthcare/Specialty Design
5. Fire Protection & More

Visit aspe.org/2025-aspe-tech-symposium/education-program to view the full schedule and session descriptions.

While you are there, be sure to register to attend in Orlando, FL on September 24–28 for this year's premier professional development event for the plumbing industry. We can't wait to see you there!

● **Next MedGas Workshop: August 21–24**

The next in-person MedGas Workshop will be held at Watts' headquarters in North Andover, MA, giving you the opportunity to learn more about their system solutions and meet product experts while earning the 32 hours of training needed for ASSE 6060 certification. You can register now at ASPE Education.

● **Earn Your Renewal Requirement**

The new "ASSE 6000 MedGas Continuing Education – 2024" course on ASPE Education, created with MedGasCards.com, meets the renewal requirements of all ASSE 6000 credentials. Get started now>>

cpdt CERTIFIED PLUMBING DESIGN TECHNICIAN

● **Save the Date**

If you are interested in earning the CPDT credential this year, the exam will be held virtually on October 13-24, and registration will open on August 1. Learn more about the CPDT credential>>

● **Want to Branch into MedGas?**

The four virtual MedGas Basics classes on ASPE Education will help you get started in this exciting specialty of plumbing engineering, and they offer CEUs. Learn more>>

● ARCSA International is proud to announce that its **Professional Rainwater Harvesting Classes for Designers, Installers, and Inspectors** have been officially approved by the Ohio Department of Health for continuing education (CE) credits for registered private water systems contractors.

Participants who complete these sessions are now eligible to receive:

- 16.0 CE hours for the Designer course
- 16.0 CE hours for the Installer course
- 8.0 CE hours for the Inspector course

These hours may be applied toward either the 2025 or 2026 registration cycle, in accordance with Ohio Administrative Code 3701-28-18 (B)(1)(g).

This approval marks an exciting milestone for the rainwater harvesting industry. Not only does it affirm the high standards and professional relevance of ARCSA's training programs, but it also opens the door for expanded acceptance in other states seeking to strengthen water resilience and professional development for water systems contractors. As more regions across the country explore sustainable and decentralized water solutions, Ohio's leadership in recognizing rainwater harvesting education sets a powerful example.

For additional details on course offerings or to register, visit arcsainternational.org/arcsa-education/classes-and-workshops.

● Congratulations New CPDs!

ASPE is pleased to announce that dozens of industry professionals passed the 2025 Certified in Plumbing Design (CPD) exam and now are eligible to use the CPD designation after their names. ASPE's CPD program is the only international credential program in the plumbing engineering field, and you can view the list of new CPDs on ASPE Pipeline.

And we celebrate the accomplishment of one of the Southwestern Ohio Chapter's own. **Clayton Milner, CPD** has successfully added the CPD distinction after his name. **Congratulations, Clayton.**

● ASPE Executive Director/CEO Receives Prestigious Award from ASME

We are pleased to announce that Executive Director/CEO William M. "Billy" Smith, FASPE, was recently awarded the Patrick J. Higgins Award & Medal from ASME International for his extensive experience, outstanding leadership, perseverance, and enthusiastic participation as a key influencer in plumbing safety. **Congratulations Billy!** Learn more>>

Through the pipes…

With the passing of Memorial Day, we have the unofficial start of summer. And to help usher it in, we have more Water Cooler conversations. This month, we begin with a Cooler that is in something of a FOG. **FOG interceptors,** that is. Read on…

● *You may have some insight into this issue I am having on a project.*

I have a project that has a disposer next to the 3-compartment sink in the ware washing area.

I piped the disposer to the to the sanitary and the 3-compartment sink connects to the kitchen waste system.

The inspector had the comment that the sink with the disposer is in a pre-rinse sink and needs to be piped to the kitchen waste system per 1003.3.1.

Per 1003.3.2, I cannot send the waste from the disposer to the kitchen waste system.

In speaking with the inspector, he wanted the disposer removed from the prerinse sink. I told him that I had in another project installed a solids interceptor downstream of the disposer and then piped to the kitchen waste system. This was done under the old code. The inspector stated that this was no longer an acceptable solution.

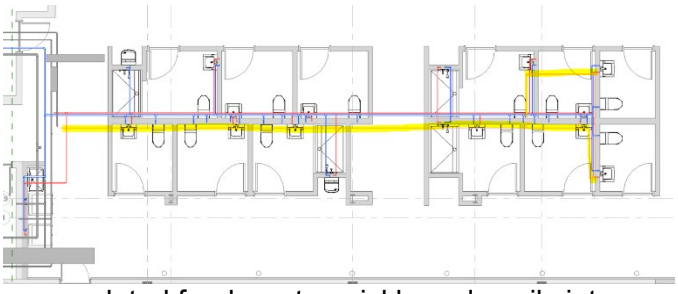
What are your thoughts on this?

This really speaks to Best Management Practices (BMPs) for the facility operators. All food waste should be scraped from the plates, trays, utensils, etc. before they reach the prerinse station. Allowing a garbage disposal on the prerinse

overloads the FOG waste system with food waste. Yes, installation of a solid's interceptor could catch the ground food waste. However, the solid's interceptor would rapidly fill up and need to be emptied and cleaned frequently. It would not take long for staff to figure out a means to eliminate the strainer in the solid's interceptor and defeat its purpose. Sending the food waste to the FOG interceptor is not an acceptable practice.

You mentioned that the inspector stated, "that this was no longer an accepted solution." However, we do not see a code reference. Nor are we aware of any applicable sewer purveyor or health department criteria in force. The inspector needs to cite a specific code section or applicable regulation that prohibits this type of installation. As has been established within the code enforcement community, the inspector can only enforce the minimum requirements of the code. Additionally, unless the health, safety and welfare of the public is put at risk, the inspector must approve the installation as shown on the "Approved" documents.

We had a similar issue with a prerinse station. The disposal was removed and the prerinse sink was modified to accommodate a strainer basket. The strainer basket was shaped to fit only one way into the sink. It was designed to catch and collect all food waste before the FOG waste emptied into the kitchen waste system. The basket had to be in place for the prerinse to operate. This was accomplished using a magnetic switch. If the basket was removed or not in place, the water was blocked by inline solenoid valves. This prevented the staff from not placing the strain basket into the prerinse sink. And, since the strainer basket was readily accessible it allowed the staff to empty the



accumulated food waste quickly and easily into a proper waste receptacle for garbage waste or composting.

● Next, we have a Cooler that is curious about **parking garage drainage:**

I am working on a parking garage drainage design. All drains in the parking garage are going to storm. For the exposed, top level I am sizing the drains based on the 100-year hourly rainfall rate used for storm drainage calculations. How should I size the drains under the covered areas of the parking garage?

What is your source of water for the covered areas? Unless you have wind-blown rain from open sides, you will only see water dripping off the vehicles. You might also have some runoff from the exposed top level running down the ramp toward the covered level.

The reality is that you will have only minimal rainwater within the garage's covered areas. Hence, you will need minimal floor drains on any given level. These are generally considered emergency floor drains, with no assigned fixture value. You may need a trench drain at the garage entrance to keep water from ponding in that area. Your secondary drainage is the garage slope, carrying water down the ramps and dispersing on the garage floor.

It is easy to oversize this system. Use sound engineering judgment as you size and select the drains and storm waste piping.

● Next, we have a Cooler that may or may not be getting himself into hot water. H**ot water distribution,** that is. Read on:

I am running a hot water loop down and through a lavatory wall and rising back up to above the ceiling. The Architect doesn't want to increase the wall width to an estimated 10" which would conceal the sanitary waste and vent as well as domestic cold and hot water (with insulation). The lavatory bank is set up as an island in the bathroom. In the past, I was mentored the above was the appropriate method and unfortunately, my Google searching has come up empty on this topic.

Here are the key points.

- *Estimated vertical height is 9'-0", above ceiling to angle stop of lavatory faucet.*
- *The lavatory faucets are sensor type (metered) with flow rate of 0.35 gpm.*
- *An online hot water delivery time calculator yielded 15 seconds to get hot water out of the faucet.*
    - *0.35 gpm through a 1/2" pipe*
- *Faucet manufacturers technical department had no minimum distance requirements or suggestion on a minimum distance from a hot water loop.*

I'd like to know your thoughts and real-world experiences in terms of what did and didn't work. The Architect is saying another site used a

standard wall width (4") at a previous site for the same owner. Of course, I would question if they were using the same gpm faucet, pipe size of the individual drops, if the wait-time was acceptable, what the metered on-off time is, etc.

We do have a few thoughts on your query:

- We do agree with the architect (which is unusual for us) that a 10-inch wall would seem excessive. It is all about how the wall is laid out and the piping is arranged. The team can work together to figure out the layout, and there are ways to make this work.

  As a side note, we have found that a 6-inch stud wall usually works just fine in this instance.
- While the sensor-type metered faucet at 0.35 gpm is suitable for water conservation, have you ever observed the water stream from such a faucet? The stream from a faucet at 0.5 gpm is tiny; at 0.35, it only worsens.
- Fifteen seconds to deliver hot water is excessive. Get a stopwatch and time 15 seconds. Would you wait those 15 seconds before you moved on? It is generally accepted that 3 to 4 seconds is the normal amount of time to wait for hot water.
- Faucet manufacturers are generally not concerned with the minimum distance, as it has nothing to do with the faucet's design. The distance is related to the design of the plumbing system. Currently, several studies, design guides, etc., are available to discuss the acceptable wait time for hot water delivery to the user.

● There are times in the design of a specialty plumbing system, there can be some question concerning types of materials and fittings allowed. Such is the quandary for a Cooler working on **siphonic roof drainage:**

For a PVC Schedule 40 siphonic roof drainage system, eccentric reducers shall be used per ASPE 45 (Siphonic Roof Drainage Standard). Could you please advise on PVC Schedule 40 manufacture and PVC eccentric reducer?

ASPE 45 states:

2.2.7 Pipe increasers in horizontal pipes and reducers at the top of risers shall be of the eccentric configuration. If listed pipe materials and products are not commercially available, concentric fittings are permitted.

You are essentially answering your own question. As noted in 2.2.7, concentric reducers are allowed. This is because eccentric reducer fittings are not available in PVC. They may be available in fabricated, fiberglass-reinforced fittings, but they are generally expensive.

● There are a multitude of ways to address **domestic hot water supply and return systems.** And we have a Cooler that could use a little guidance for a particular design situation. Have a look:

I have a project with 12 individual bathrooms, a utility sink and two domestic washing machine supply boxes (bottom left location). Lavatories are spread out all over. Refer to the screenshot below. Walls are CMU and pipes goes above the ceiling. Lavatories have 0.5-inch supply

The project is located in Wisconsin and Table SPS 382.40 - 1d requires a maximum pipe distance from the fixture to the circulation of 25 feet and for lavatories 6 feet. So, for the lavatories, I have to tee-off the circulation return in the wall close to the lavatory.

Blue is cold water; red is hot water supply and the light red (highlighted) is my started attempt to return. This is a remodel and to the left are the existing pipes the new pipes will tie in.

From this, I do have a few questions:

- *Since in my case the re-circulation has to drop down into the wall, how do I ensure all there is about equal flow to each lavatory?*
- *Is there a better layout for my design? I assume the hot water supply for each of the balancing valve zones will play a role how each lavatory gets fed (how much flow)*
- *What really makes this harder is the 6-foot maximum distance that forces me to loop the return line into the wall. All examples and tutorials I saw skip that part and the return line in my case would just run above the ceiling. But it would not drop down to each lavatory. Is there some other method I'm missing that would not require the separate drops to the wall?*

I don't know how much the balancing valves cost. But besides saving upfront cost, I also want to reduce the number of balancing valves to reduce complexity and maintenance. And less complex piping also saves costs. On the other hand, I want to ensure there is reasonably warm water at each lavatory (and shower).

As with many systems, using the KISS (Keep It Simple, Stupid) method is best. The issue, in our minds, is what your end goal is: quick hot water delivery or following a rule that is intended to be a

minimum requirement. You also have to consider the energy code-in-force, which has specific hot water distribution guidelines.

You do not indicate a return to the lavatory in the left upper room. The simplest system would be to create a loop: supply hot water to each fixture requiring hot water, feeding from fixture to fixture. This may add piping, depending on how close the fixture supply is to the hot water distribution line you decide to use. It will also increase your line size as you need to design for the flow through each node, reducing line size as you run to the return point. We rarely provide a return line size less than 3/4" in our designs. In this method, you would only need a single balance valve assembly. However, as this is an existing system, you must review the entire system and revise it to accommodate the new load.

Another method would be to provide a return from each fixture, with the return beginning near the fixture being supplied. This will involve a balancing valve assembly for each fixture. You must also ensure that entrained air can be cleared from the return system operationally, not by air venting. The comment about the existing system must still apply.

Yet another approach is to use a heat maintenance cable to keep the hot water at the desired temperature. This approach would not involve the existing return system.

In response to your specific questions:

- Your balance valve assembly regulates equal flow for each return line. Your piping arrangement must ensure operational removal of entrained air.
- As for layout, there are several approaches, some of which are outlined above.
- The 6-foot drop is the piping distance from the ceiling turndown to the fixture supply stub. So, unless you have a high ceiling, it should be within the normal drop without dropping the return line into the wall. However, a 6-foot drop will increase hot water delivery time to the fixture.
- Cost is always a concern, so one must weigh the number of balancing valves against the cost associated with changes in pipe sizing and system layout.

● Nowhere other than fire protection do we see Contract Documents v Installation Drawings fail to be completely in agreement. Consider the question posed by a Cooler:

The NFPA 13 handbook says everything from the 23.1.3 list that pertains to the building and fire protection system is the minimum requirement for the working drawings.

Having completed working drawings for contractors in the past, everything on the NFPA 13 Chapter 23 list was required. I've even been asked to resubmit for lack of a graphic scale. Ever since then, it has been our opinion that the Working Drawings should be able to be used as a standalone reference, meaning no other CD or submittal document retrieval should be required to completely understand the fire protection system layout and duplicate the calculations.

I'm currently reviewing shop drawings prepared by an extremely reputable FP engineering firm and many of the required items from the checklist are missing. Of the applicable items, the explanation is that the information such as compass point, building sections, water service line, etc. are part of the CD set and therefore not required. Pipe elevations are included in the calcs, so are not required on the drawings. Fire sprinkler and major valve manufacturer and model numbers are included in the product data, which BTW was not submitted by the contractor with the drawings and calcs as specified and is not this engineer's fault. Having said that, when sealing working drawings for contractors we would require that information on the drawings so that it was clear to other entities that the equipment being provided matched the calcs. They also said that cut lengths are not required because these are not fabrication drawings. They said the quantity of sprinklers doesn't matter because there is only 1 riser and they are all the same temperature.

I have complete confidence in this engineer. I'm just wanting to check myself for future reviews. For the record, I'm of the opinion that this should be returned and resubmitted with the product data. Other than that, things like graphic scales, compass points and other minor missing line items I would say MCN for Owner's Record Copy.

I don't know how many times I've asked for FP information for a building and the only information available is the working drawing. Am I wrong in thinking it should be as easy as possible to duplicate the calcs with only the working drawing available?

It all depends on what your firm is contractually obligated to provide. So, what does the firm's contract require?

The NFPA 13 Handbook is a great guide, but it is not the code. A handbook is someone's interpretation of the stated requirements in the NFPA 13 standard. So, are you reviewing the

design documents, working drawings, shop drawings, or fabrication documents?

The purpose of any document is to communicate the intent of the design to the recipient. If there is a lack of information, then the recipient will not have a clear understanding of what the documents should be telling them. However, the design documents must be taken as a whole, not individual parts of the package. Hence, the documents must be complete as a whole.

Generally, as a consulting firm, the design documents must show the intent of the fire protection design: floor control locations, primary pipe routing, standpipes, fire pump location, etc. The design documents will establish the hazard rating for the various areas and required coverage and show the various rated walls.

The certified sprinkler contractor is responsible for completing the shop/fabrication drawing for review by the Fire Marshal/Authority Having Jurisdiction (FM/AHJ) and the Engineer-Of-Record (EOR). NFPA 13 refers to this set of documents, including all required criteria.

However, if your firm's contract is to provide a complete fire protection design, you must include all of the NFPA 13 requirements.

Having a contractor's certified designer stamp and sign the shop/fabrication documents does not relieve the EOR of their obligation as the engineer of record.

We agree with you, to a point, that the shop/fabrication/working drawings by the contractor should be complete and standalone to allow for an adequate review of the submittal. The issue remains that these documents are part of the overall contract documents. There are times when the fire protection contractor provides shop/fabrication/working drawings that only meet the requirements of NFPA 13, while not fully complying with the requirements of the approved contract documents. The contractor's document may meet the requirements of the Fire Marshall, but it may not fully conform to the contractual requirements of the approved documents. You have every right to request a resubmittal until the contractor's submittal fully complies with the contractual requirements. This may also require the contractor to resubmit to the FM/AHJ.

No submittal is approved until it provides what is mandated by the contract documents (specifications, codes, and drawings).

● Combined water services can have some unique provisions for a **master service valve.** Enjoy:

We have always interpreted that the intent of 606.1 for a combination domestic/fire protection service requires a full open valve at the entrance into the structure before the split between the domestic and fire protection services.

What's got me is the wording of the requirement: "On the water distribution supply pipe at the entrance into the structure."

Here's the definitions from Chapter 2.

WATER PIPE.

Water distribution pipe. *A pipe within the structure or on the premises that conveys water from the water service pipe, or from the meter when the meter is at the structure, to the points of utilization.*

Water service pipe. *The pipe from the water main or other source of potable water supply, or from the meter when the meter is at the public right of way, to the water distribution system of the building served.*

WATER SUPPLY SYSTEM. *The water service pipe, water distribution pipes, and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the structure or premises.*

So, is the valve before the combined water service split required? Or does it suffice to say the valve we show before the meter is located on the water distribution supply pipe?

Remember that the plumbing code is a minimum standard. Depending on the jurisdiction, the plumbing code only applies to the structure, not the exterior services. The exterior services are covered by the civil engineering regulations established by the purveyor.

We also must apply sound engineering judgment to our designs. So, it stands to reason that the first fitting when a service enters the building would be a shutoff valve equivalent to the size of the piping. After all, the intent is to isolate the structure from the service with a single control valve. When a meter is involved, interior or exterior, it is accepted practice to have a valve on both sides of the meter.

In the case of a combined service (domestic/fire) only the domestic is usually metered. Both services will have an appropriate backflow prevention device installed to contain the facility from the public service, and more valves will be involved.

Think of it this way: The main service valve controls the flow of the service into the building, utilizing a single valve. Separate valves will then

control the fire and domestic services after they split from the combined service line.

If you look at it from the public street main into the building, you will see a "tapping valve" at the street main. This will be followed by a "curb stop" (another type of valve) at the property line. If the combined service is split near the property line in a meter pit, you will have a valve before any other device or meter after the split on each service line. This allows each service to be individually controlled. The domestic water meter will typically be installed in the meter pit after the control valve, with another service valve on the meter outlet. Depending on the meter size and the purveyor's regulation, you may also have a valved and locked bypass around the meter to allow for meter replacement without interrupting the water flow.

However, if the combined service extends into the building, the shutoff service valve must be located just inside the building wall. Additional control valves are provided as described above.

Read the code language, but be careful you do not read too much into it. It is more important to understand the system than to try to match code wording to a practical application.

● It's time for all Coolers to come to church. Or at least to a **baptismal** which may pose some unique requirements for installation. Just follow the following conversation:

I wanted to ask if you have had or know of someone who has worked with baptism tubs. I have a church project that has a roughly 550 gallon tub and it is a first for me. I have looked at some spec sheets to see what kind of drain size that would need and domestic hot and cold water supply sizes. I would really appreciate your help if you know about these or someone who does.

A 550-gallon tub is larger than a standard bathtub but smaller than what is viewed as a pool. However, the design will need to follow the owner's religious requirements, Health Department rules related to baptismal and plumbing code requirements for such installations.

We suspect the minister and the person undergoing the ritual will use this pool. This process may be repeated several times without a change in the pool's contents. You will need to consider the following:

- Does the pool remain filled between uses (self-contained) or emptied after the baptismal ceremony?
- Is the pool's fill opening location submerged or with an approved air gap? If submerged, backflow protection will be required.
- Does the pool require hot water, or is the temperature maintained by a heater associated with the pool?
- As multiple people use this baptismal, sanitation must be considered from a Health Department perspective. Hence, the pool water will most likely require circulation, filtration, and disinfection. Additionally, some means of maintaining temperature must be incorporated into the circulation loop.
- While this is a baptismal, it is basically a "pool." Hence, the waste must be indirectly directed into the sanitary system to prevent sewage from entering the pool.
- Time is the driving element in sizing the water supply and drainage system. How much time is allotted to fill or drain the pool? If the pool were to be drained between uses, what would be the cycle time between those uses?
- Check with the equipment provider as to their recommended installation instructions.

You may also find some guidance online, such as How to Install a Church Baptistry | Churchproducts.com.

Do not think of this as a plumbing fixture but a piece of religious equipment. While the Health Department and plumbing regulations are involved, they provide the minimal requirements needed to protect the public's health, safety and welfare.

I will have to have a meeting with my PM and the client(s) since this is probably going to be out of our wheel house as we don't normally cover pools and I didn't know it was technically one.

I really appreciate your help here and have one last question.

What classifies a pool from a large tub? Is it the capacity or use?

A baptismal is a sacrament marked by the ritual use of water. It can be a simple basin in which "Holy Water" is contained to place on a person's head or a larger vessel in which a person or group can be immersed.

According to the ASPE Plumbing Engineering Dictionary, a bathtub is "A fixed or freestanding vessel designed for one person to sit or lay in while washing."

However, in the context of baptism, 550 gallons would be a pool, as defined by the same dictionary as "A plunge or other bath designed to accommodate more than one bather at a time." The number of individuals with access to the fixture makes the difference between a tub and a pool.

Pools fall under the jurisdiction of the Health Department since there is more than a single user, and public health must be protected.

While you may feel overwhelmed, the fixture (equipment) is connected to the plumbing system, which needs potable water and drainage. It is just not the usual plumbing application.

As we discussed in the earlier message, a pool does not directly connect to the sanitary system and requires backflow protection for the water supply. It remains plumbing in that codes and regulations govern the sanitary and water systems.

As designers or engineers, we learn new things every day. Exploring the unknown and developing a design that protects the public health, safety, and welfare is part of the fun.

Parting thought…

…and all at once summer collapsed into fall.

-Oscar Wild

ASPE Education & Certification

Registration for the 2025 Certified Plumbing Design Technician (CPDT) Exam Is Open

The 2025 Certified Plumbing Design Technician (CPDT) exam will be held via remote proctor from October 13–24, and ASPE is pleased to announce that registration is now open.

To be eligible to take the CPDT exam, you must have one of the following:

- Bachelor's degree in engineering with one year of experience designing plumbing systems
- Associate's or bachelor's degree in a field related to engineering (physics, mathematics, architecture, civil, environmental studies, construction, HVAC, etc.) and a minimum of two years of experience designing plumbing systems
- Four years minimum of plumbing design experience

ASPE members who are in the Full or Associate member categories are automatically eligible to sit for the examination. Others must complete the **eligibility form** prior to submitting exam registration fees.

The cost to take the exam is $225 for ASPE members and $450 for nonmembers. Not an ASPE member? **Join today** to save on the CPDT exam and take advantage of all of ASPE's member benefits.

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