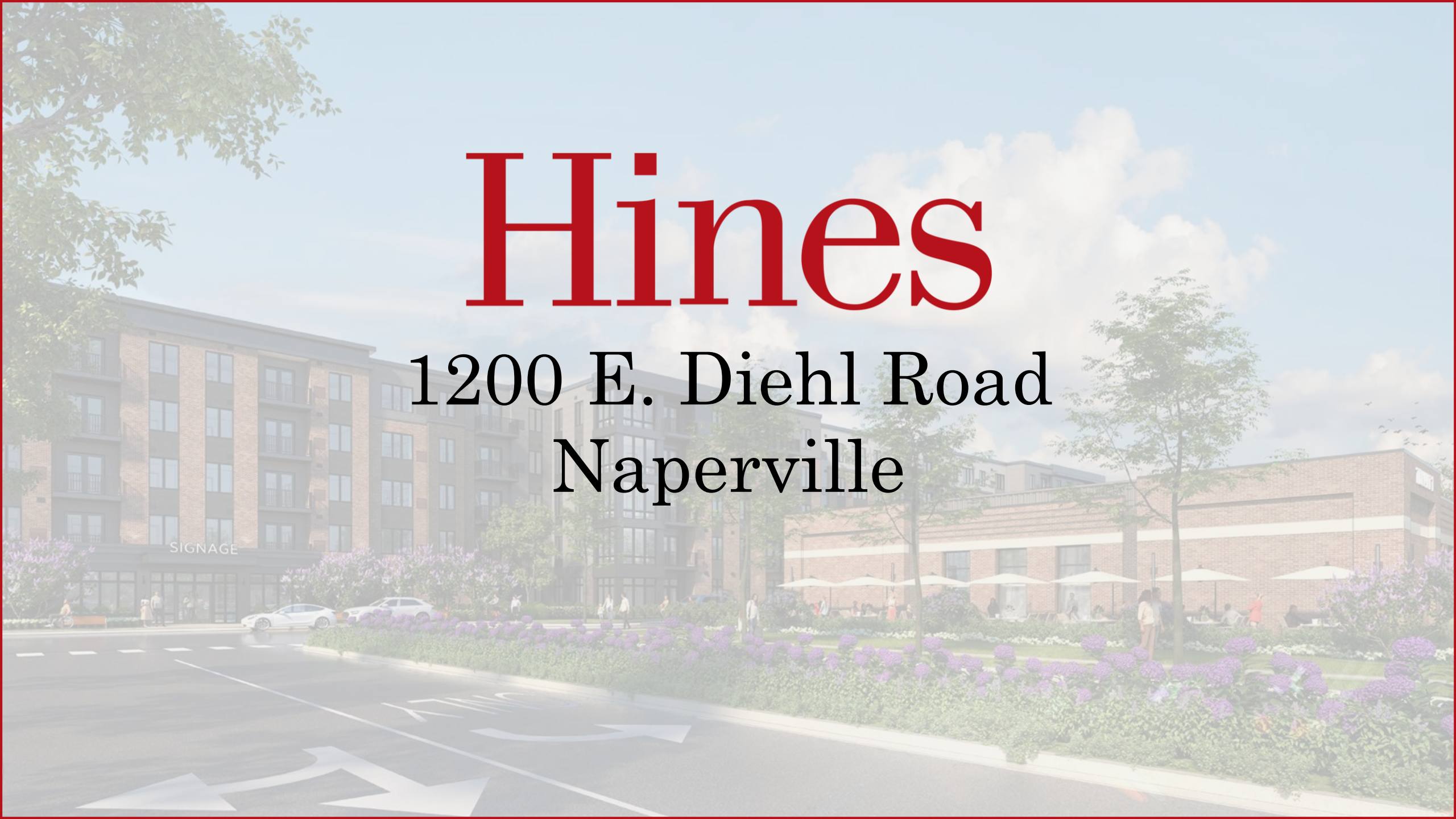


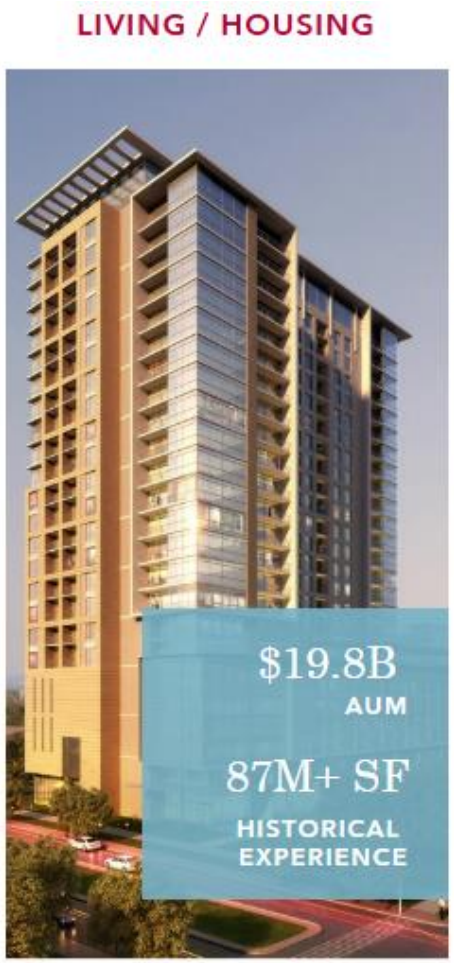
Hines

1200 E. Diehl Road
Naperville

GLOBAL EXPERIENCE

Hines is a leading global real estate investment manager. Hines owns and operates $90.1 billion[1] of assets across property types and on behalf of a diverse group of institutional and private wealth clients. Hines' 5,000+ employees in 30 countries (across 415 cities in 5 continents) draw upon the 68-year history to build the world forward by investing in, developing, and managing some of the world's best real estate.

The firm is active across all product types, from core and value-add acquisitions to opportunistic pursuits and development projects.



[1]AUM as of December 31, 2024

MULTIFAMILY EXPERIENCE

Hines is committed to enriching communities through thoughtfully designed and expertly managed residential projects. With 68 years of experience, Hines' brand is synonymous with quality and upholds a reputation for excellence and integrity.

From high-rise condominiums and multifamily developments to master-planned neighborhoods, student housing, and senior living, Hines' work aims to create spaces where people can thrive.

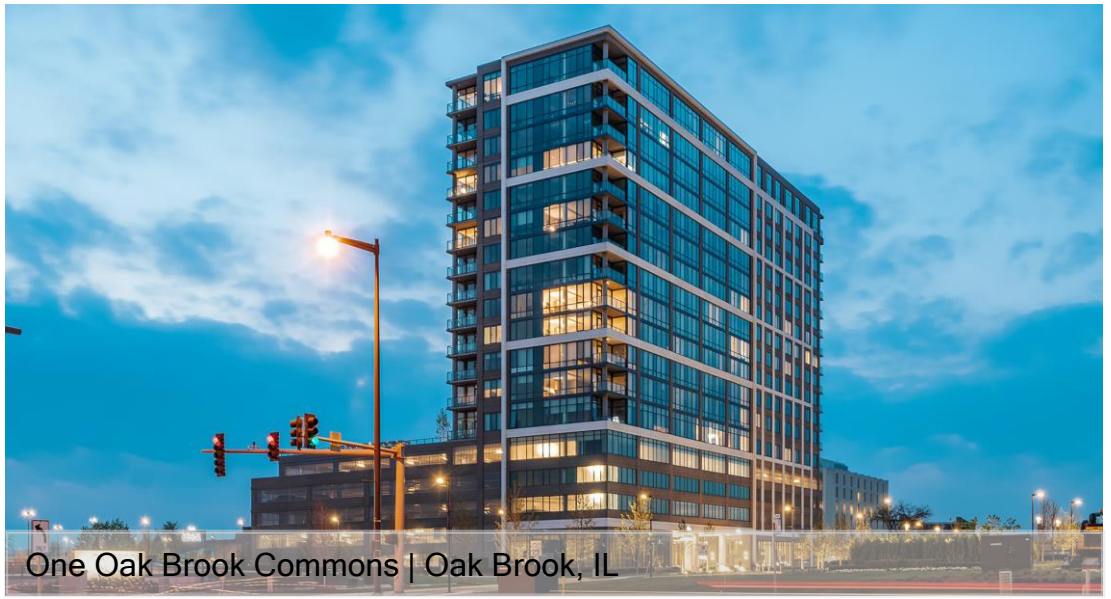
87M+ SF
OF DEVELOPMENTS COMPLETED, UNDERWAY OR ACQUIRED

23M+ SF
MANAGED

60,458
MULTIFAMILY UNITS COMPLETED, UNDERWAY OR ACQUIRED

1.4M+ SF
OF SENIOR HOUSING DEVELOPMENTS COMPLETED, UNDERWAY OR ACQUIRED

11,875
STUDENT HOUSING BEDS DELIVERED ACROSS EUROPE


One Oak Brook Commons | Oak Brook, IL


The Harlan | Ann Arbor, MI (Under Construction)

Data as of December 31, 2024

1200 DIEHL ROAD SITE PLAN

1200 DIEHL ROAD ELEVATION

HINES EXPERIENCE WITH CPVC & PEX

Since 2017, Hines has developed **multifamily units in 20+ developments using CPVC & PEX products** ranging in geographies across the United States and construction typology (low-rise, high-rise, etc.) deployed.

9,000+

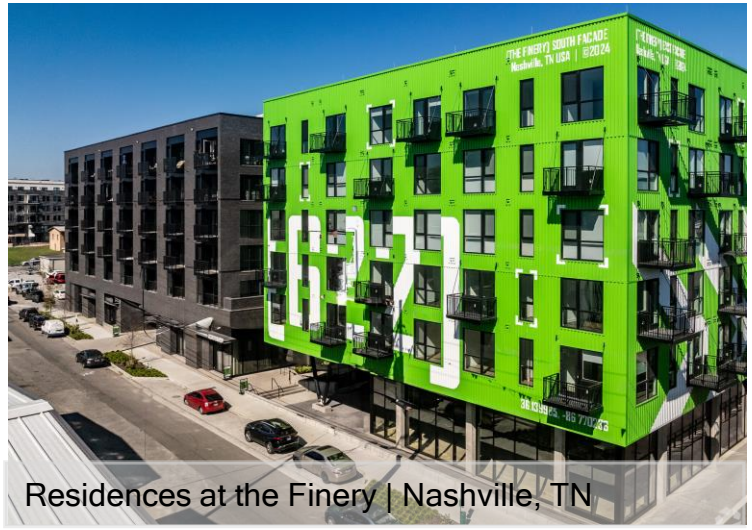
MULTIFAMILY UNITS IN DEVELOPMENTS COMPLETED AND CURRENTLY UNDERWAY

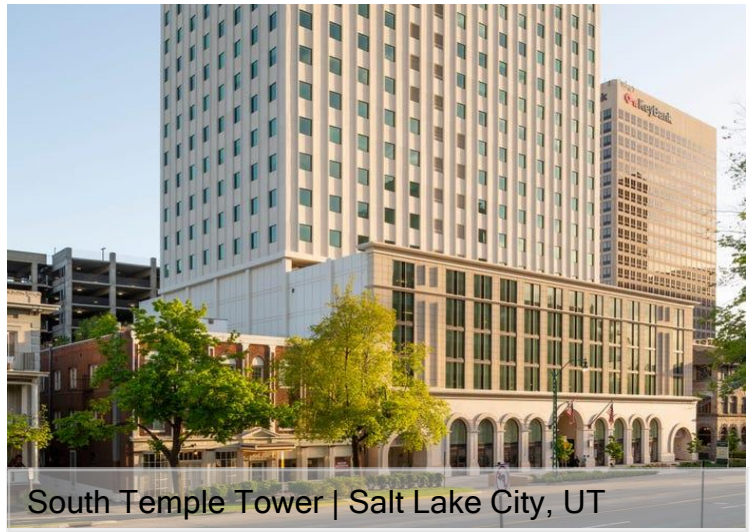
20+

MUNICIPALITIES IN WHICH HINES HAS COMPLETED MULTIFAMILY DEVELOPMENT USING CPVC & PEX PRODUCT INCLUDING:

- MILWAUKEE, WI
- HOUSTON, TX
- DENVER, CO
- NASHVILLE, TN
- SAN FRANCISCO, CA
- WASHINGTON, DC
- SALT LAKE CITY, UT
- CALGARY, AB (CAN)
- MINNEAPOLIS, MN
- DALLAS, TX
- FORT LAUDERDALE, FL
- TAMPA, FL
- SACRAMENTO, CA
- REVERE BEACH, MA
- ANN ARBOR, MI
- DAYTONA BEACH, FL
- MURFREESBORO, TN
- FORT MYERS, FL

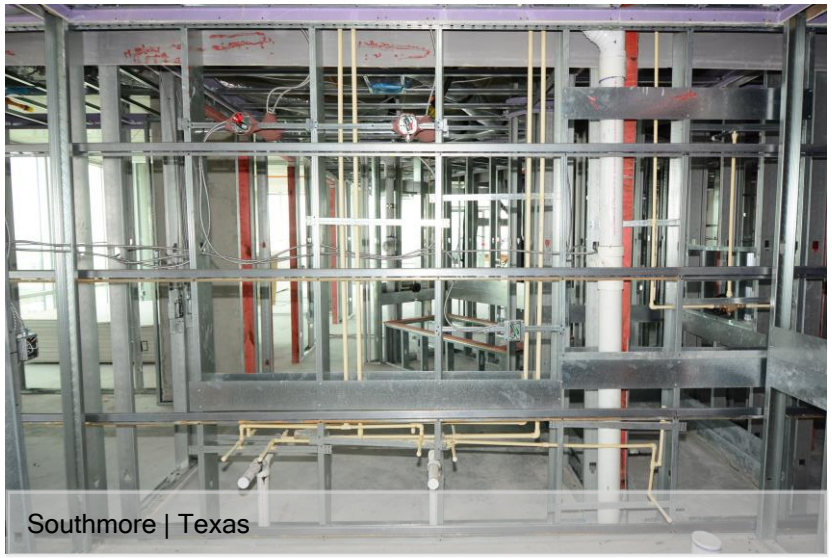

333 Water | Milwaukee, WI


Residences at the Finery | Nashville, TN

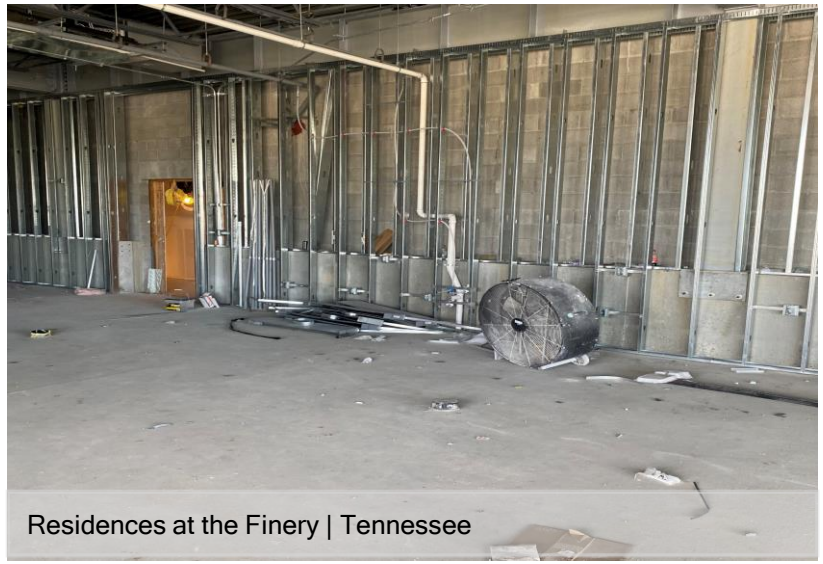

South Temple Tower | Salt Lake City, UT


Revio | Revere Beach, MA

HINES EXPERIENCE WITH CPVC & PEX



Southmore | Texas

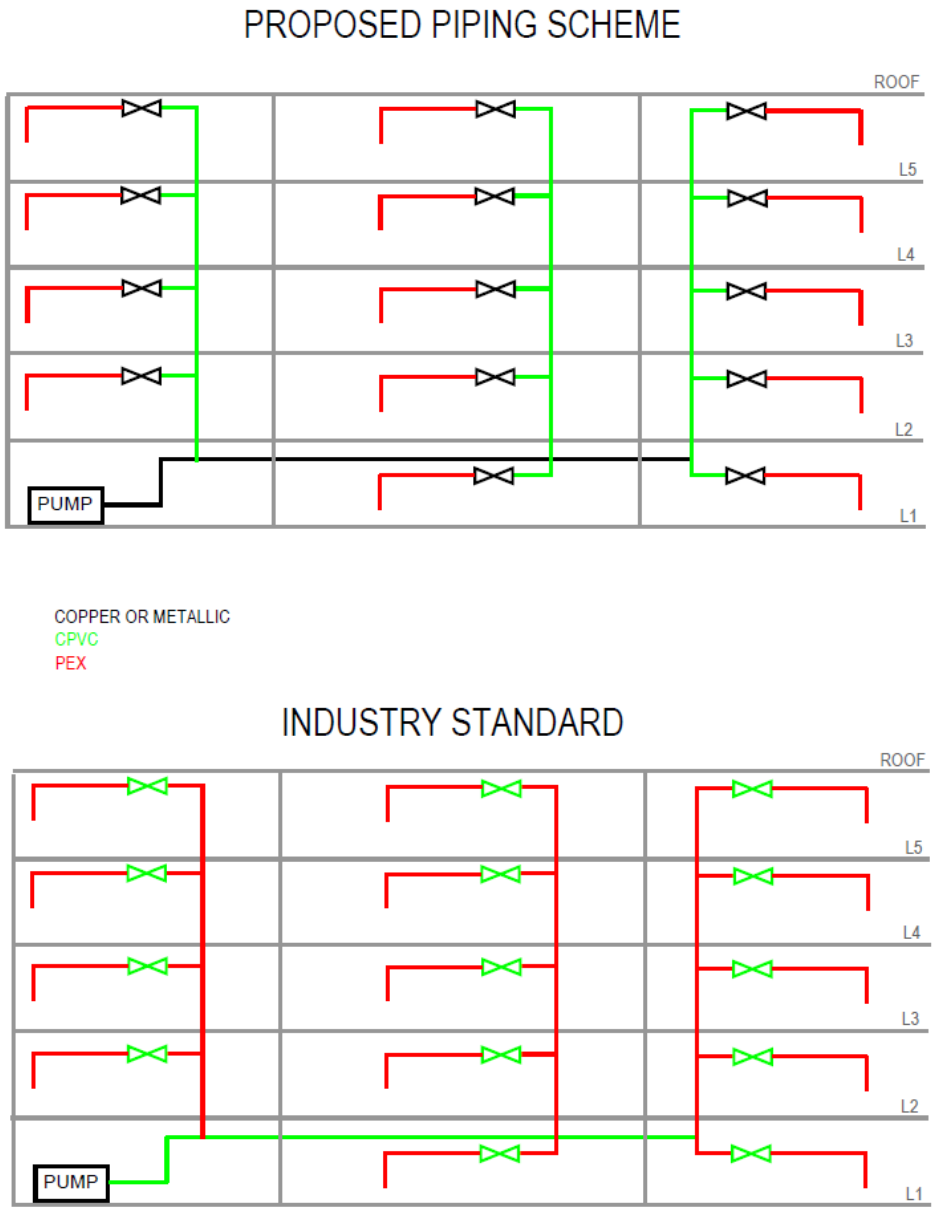


Residences at the Finery | Tennessee

Sloan Lake | Colorado

One Park Central | Canada

LIMITED DEPLOYMENT OF CPVC & PEX-A



Hines is seeking approval for the use of PEX-A & CPVC on domestic piping **after the meter only**. We are not proposing PEX-A or CPVC piping in City infrastructure, and the use of these materials will be above-grade and within the building.

- Copper horizontal main at ground floor extending from domestic water booster pump.
- Branches to each vertical riser would transition to CPVC.
- Branches within residences would transition to PEX-A.
- PEX-A is limited to within a residence, downstream of a shut-off valve.
- All shut-off valves within PEX-A or CPVC piping will remain metallic.

PEX-A COMPARED TO PEX-B

There are two types of PEX: PEX-A and PEX-B. **Hines specifies PEX-A, which has the following advantages:**

Fitting Size

- PEX-A fittings are the same size as the pipe → eliminates any flow restriction at the fittings

Burst Pressure

- PEX-A can handle up to 500 PSI → 6x greater than the working pressure of a domestic water system

Flame-Smoke Rating

- PEX-A has the 25/50 Flame-Smoke rating →able to be in a return air plenum

LEGAL STANDARDS

Hines is requesting a variance to City of Naperville's local amendment to Section 890.320 of the Illinois State Plumbing Code for **approval to use specified PEX-A and CPVC piping and fittings** within a limited scope of the domestic water distribution systems.

- Requested variance aligns with International Plumbing Code
- Requested variance aligns with the Uniform Plumbing Code
- Requested variance also aligns with the State Plumbing Code

STANDARD OF CODES

Application of Municipal (City & State) Codes is typically **agnostic on materiality**.


333 Water | Milwaukee, WI


North Loop Green| Minneapolis, MN

- Again, neither International Plumbing Code nor State Plumbing Code mandate the use of copper domestic water distribution piping
- Codes typically focus on performance, not specifics of materials.
  - Example: Wall partitions may require 1-hour or 2-hour fire ratings. The code does not mandate which materials to use to achieve these ratings.
- Designer's responsibility is to select components and materials that meet the certified assembly requirements.
- Naperville's amendment deviates from this standard approach by restricting specific materials, contrary to the usual code practice.

SUPPORT FOR PROPOSED VARIANCE

Hines has utilized PEX-A and CPVC piping solutions to great success in other US Markets and around the Globe. Hines believes that there is sound basis for supporting the use of PEX-A and CPVC piping in this application.

- The variance complies with both International and State Plumbing Codes.
- CPVC and PEX-A are safe alternatives to metallic pipe, as judged by International and State Codes.
- CPVC and PEX-A do not compromise quality of construction.
- The City should encourage adaptation of new technologies in modern building construction.
- Hines' proposed use of CPVC and PEX-A is strategically limited to above-grade locations, within the building and after the meter.
- CPVC and PEX-A are more schedule/cost efficient, leading to lower required rents.
- On a whole lifecycle basis – i.e., from production to disposal – the embodied carbon of CPVC and PEX-A is half of that of copper.

ADVANTAGES OF CPVC & PEX

Protection Against Legionella

- PEX-A offers a smoother interior surface compared to copper → less susceptible to biofilm growth
- Stagnant water and storage temperature are the primary causes of waterborne disease.

More Flexibility

- CPVC and PEX-A are much more flexible than copper → installation is easier and faster
- Flexibility of PEX-A requires fewer fittings → fewer potential leak points in the system
- PEX-A does not permanently kink → the material is resilient and "desires" to return to original shape

Better Corrosion Resistance

- CPVC and PEX-A are more inert than copper → better corrosion resistance
- CPVC and PEX-A are more resistant to scaling, pitting and pinhole leaks → particularly resistant to slightly-acidic water

More Sustainable

- CPVC and PEX-A use less energy in production than copper piping
- CPVC and PEX-A are made with less resource extraction than copper
- CPVC and PEX-A hold heat better in hot water systems than copper

Lower Embodied Carbon

- The embodied carbon of CPVC and PEX-A is 50% that of copper

Lower Tariff Risk

- Based on sourcing locations, less susceptible to tariff-induced supply-chain disruptions

CITY STAFF CHALLENGES TO PEX

Lower Heat & UV Resistance

- Staff: “PEX cannot withstand high temperatures as well as copper and degrades with prolonged exposure to sunlight, making it unsuitable for outdoor applications.”
- Mitigant: Variance request relates to indoor/conditioned, insulated use. Uponor manufactured PEX-A is rated for hot water.

Potential Chemical Leaching

- Staff: “Some concerns exist about PEX releasing chemicals into the water, though it is generally considered safe when certified for potable water.”
- Mitigant: The International Code Council, the State of Illinois, and the State of California have all found that PEX-A is safe for use in potable water applications. Notably, the IEPA is the authoritative source on permitting of water connections throughout the state and has historically approved PEX-A materials.

Lower Pressure Tolerance

- Staff: “While PEX is durable, it has a lower pressure rating than copper.”
- Mitigant: 1200 Diehl low-rise development would deploy it downstream of isolation valves within residences.

Rodent Damage Risk

- Staff: “PEX is more vulnerable to being chewed by rodents, whereas copper is not.”
- Mitigant: Variance request relates to indoor/conditioned, insulated use. Based on operational history of 9,000+ units in Hines’ portfolio, rodents have not been an issue.

Not as Rigid

- Staff: “PEX requires proper support to prevent sagging over long runs, copper is naturally rigid and holds its shape well.”
- Mitigant: Proposed PEX-A routing is through joists and studs on regular intervals of 24”, providing sufficient support.

CITY STAFF CHALLENGES TO CPVC

Lower Durability

- Staff: “CPVC is more brittle and prone to cracking over time, especially in extreme temperatures”
- Mitigant: Hines’ proposed application is limited to indoor use, eliminating concerns regarding extreme temperatures.

Lower Pressure & Heat Tolerance

- Staff: “While CPVC can handle hot water, it has a lower pressure and temperature tolerance than copper.”
- Mitigant: Product rating exceeds the application in both heat and pressure.

Solvent Cement Joints

- Staff: “Requires proper gluing and curing time, which can be a disadvantage in time-sensitive projects.”
- Mitigant: While cure time can be hours, total installation time is much faster than copper product.

More Susceptible to Freezing Damage

- Staff: “CPVC is rigid and can crack when water inside freezes, whereas copper expands slightly before bursting.”
- Mitigant: In proposed scheme, CPVC will be deployed in a conditioned space.

UV Sensitivity

- Staff : “Cannot be exposed to direct sunlight for extended periods, making it unsuitable for above-ground outdoor use.”
- Mitigant: Variance request is for indoor use only and in conditioned spaces.

Environmental Concerns

- Staff: “CPVC is made from plastic and may not be as environmentally friendly as copper, which is recyclable.”
- Mitigants: CPVC and PEX-A (1) use less energy in production than copper piping (estimated 37,500+ pounds of CO^2 equivalent savings in current design), (2) require less resource extraction in their manufacturing than copper, (3) hold heat better in hot water systems than copper and (4) produce half the amount of embodied carbon.

CONCLUSION

Hines is requesting a variance to allow the limited deployment of CPVC & PEX-A at 1200 Diehl Road in a manner that aligns with International and State Plumbing Codes

- The continued defense of Ordinance 5-1E-2 lacks strong justification
- Codes rarely dictate acceptable (or unacceptable) materials in any trade → Naperville Ordinance 5-1E-2 is the rare exception and runs contrary to International and State Plumbing Codes
- Use of CPVC and PEX-A is industry standard in multifamily projects in nearly every other AHJ → CPVC and PEX-A do not compromise quality or compromise the risk profile of the project
- Industry standard deploys plastic pipe much more liberally than we are proposing here→ proposed use of CPVC and PEX-A is limited in scope to above-grade, within the building and after the meter
- New development economics are highly challenged and further negatively impacted by new tariffs → Unnecessary cost premiums such as copper piping limit new housing supply and raise required rents
- The embodied carbon of copper is 2x that of CPVC and PEX-A on a whole lifecycle basis

THANK YOU