

Update to Building Code - Sprinkler Requirement for Residential

Town Council Study Session

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Purpose of Discussion

Inform

- Background and policy history
- Review benefits and challenges of adoption
- Compare Erie to neighboring jurisdictions
- Share input from HBA & MVFPD

Receive Direction

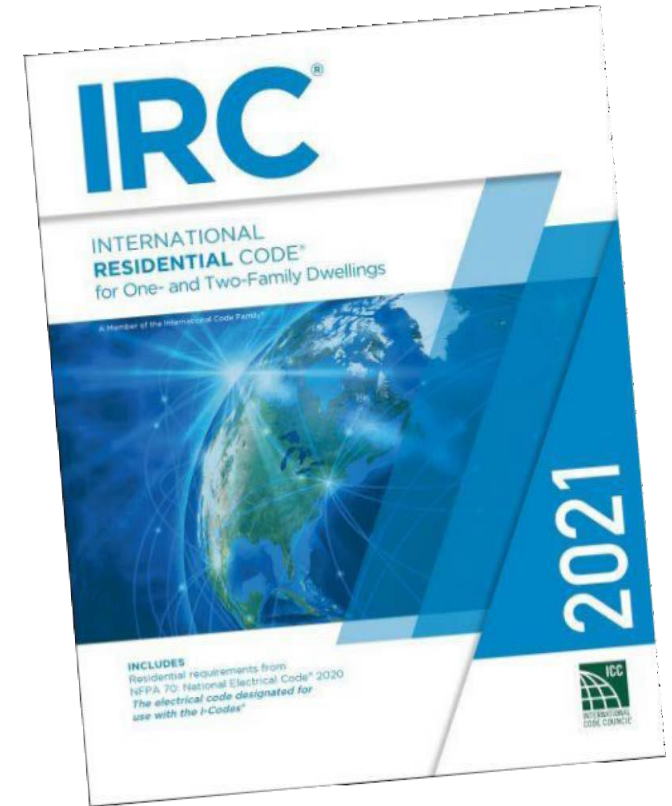
- Determine whether to update Town building code

Code History in Erie

- **2006 IRC:** Did not require residential sprinkler
- **2009 IRC:** Introduced sprinkler requirement
- **2015 IRC:** Adopted via Ordinance 46-2019 with amendment to exempt sprinklers
- **2021 IRC:** Adopted via Ordinance 20-2022 with full sprinkler requirement retained
- **2024:** Stakeholder roundtable led to request for repeal consideration

Sprinkler Provision in IRC

- Applies to new one -and- two family dwellings and townhomes
- Mandated by ICC since 2009 IRC
- Still present in 2024 IRC edition



Potential Benefits & Drawbacks

- Design trade-offs:
 - Reduced exterior wall fire separation (2021 IRC Table R302.1(2))
 - Reduced wall separation in two-family dwellings (IRC R302.3 Exception 1)
- Need for floor protection (IRC R302.13 Exception 1)
- Impact to Town's ISO BCEGS score

Comparison to Other Municipalities

<i>Jurisdiction</i>	<i>Require Automatic Fire Sprinklers</i>		
	<i>Single Family</i>	<i>Duplex</i>	<i>Townhome</i>
Boulder (City)	Yes	Yes	Yes
Broomfield	Yes	Yes	Yes
Castle Pines	No	No	Yes
Centennial	No	No	Yes
Firestone	Yes	Yes	Yes
Fort Collins	No	Yes	Yes
Lafayette	No	No	No
Longmont	No	No	Yes
Louisville	No	No	Yes
Loveland	No	No	No
Northglenn	No	No	No
Superior	Yes	Yes	Yes
Thornton	No	No	No
Weld County	No	No	No
Westminster	Yes	Yes	Yes

- The Erie Fire Sprinkler Requirement has significantly impacted housing attainability in Erie – costing aspiring homeowners \$4.50 per sf or approximately \$10,000 to the price of a single-family home.
- Additional Costs include – 1” tap (\$1,000), architectural drawings (\$2,500), financing, builder profits, permitting delays and annual system testing.
- Total cost to the homeowner = \$13,500. This is direct cost to the builder. With overhead and profit, it is over \$16,000.
- This cost is in addition to other fees and mandates imposed on new homeowners by the town since 2023:
 - IECC Code - \$5,500
 - Metro Districts - \$5,000
 - Water Tap Fee - \$20,235

Total cost of new fees & mandates to new homeowners in Erie over last two years - \$46,735



- Vast Majority of front range municipalities and counties continue to amend residential sprinkler requirements out of their codes.
- Fire Sprinkler Systems are not designed to protect homes from wildfires.
- The number of home fires and fire deaths continue to decline as more new housing stock is constructed since new homes are built requiring superior safety code standards. (Ex. fire resistant building materials & better smoke detection systems.)
- Industry challenges – Interest rates, tariffs, workforce challenges are all contributing to make house affordability more challenging in Colorado and across the county.
- According to NAHB, for every \$1,000 increase in price, an additional 2,373 households are priced out of the market in the State of Colorado.
- Town of Erie has seen a 45% decrease in total number of assessed residential building permits in 2025 compared to this time last year. (Increased Costs related to new fees & mandates likely a significant factor)

Fire Sprinkler

- In **2023**, Over 332,000 home-structure fires were reported. These home structure fires caused 2,890 civilian deaths (79% of all reported fire deaths), 10,190 civilian injuries (77% of all reported fire injuries) and \$11B in direct property damage (62% of all fire property damage) in the United States.*
- From **2017-2021** fire sprinklers in reported home fires resulted in an annual average of 22 civilian deaths (1% of all home fire deaths), 550 civilian injuries (5%) and \$249M (3%) in direct property damage.**
- Home fire sprinklers can reduce the risk of dying in a fire by 89 percent and can reduce property loss by 70 %.**

**NFPA Journal- "Fire Loss in United States 2023" Winter 2024 Edition
Sprinklers" April 2024*

***NFPA Research-"Us Experience with*



Fire Sprinkler

- From **2017-2021** in 85% of home fires with operating sprinkler systems, only one sprinkler operated to suppress the fire; in 99.2% of home fires 5 or fewer sprinklers activated. Sprinklers kept the fire to the room of origin 96% of the time.**
- A single fire sprinkler head operates at 13-17 gallons per minute. A single hose stream used by firefighters during fire operations uses 120-180 gallons per minute.
- Keeping the fire isolated to the area of origin minimizes fire, smoke, and water damage; allowing the occupants to reoccupy in a significantly reduced time frame, usually weeks, as opposed to months, years or ever.



Fire Sprinkler

- An average cost (material and labor) in Erie is about \$1.75 per square foot. This cost is about the same as upgraded cabinets, counter tops or carpet. The cost for a fire sprinkler system in a 4,000 sq ft home in Erie is an additional \$7,000 with a MVFR Permit Cost of \$175 in this example.
- MVFR has issued over 1,800 Residential Fire Sprinkler Permits since 2017
- Homeowners can see a reduction in Home Insurance Premiums as much as 12% when a home is protected with an automatic fire sprinkler system.



Council Direction