



LEWISVILLE

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CITY OF LEWISVILLE BUILDING & FIRE CODE UPDATE



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- All Codes updates in this presentation are still under legal review

CODE ADOPTIONS:

- 2024 International Building Code
- 2024 International Fire Code
- 2024 International Residential Code
- 2024 International Plumbing Code
- 2024 International Fuel Gas Code
- 2024 International Mechanical Code
- 2024 International Energy Conservation Code
- 2024 International Existing Building Code
- 2024 International Property Maintenance Code
- 2024 International Swimming Pool & Spa Code
- 2026 National Electrical Code (NFPA 70)

The model codes are published on a three-year cycle by the International Code Council and the National Fire Protection Agency.

North Central Texas Council of Governments (NCTCOG) publishes recommended regional amendments based on local practices and conditions.

Hundreds of significant changes are approved during a code cycle by North Central Texas Council of Governments (NCTCOG)



UPDATES TO THE FOLLOWING CHAPTERS:

- **Chapter 4 – Buildings and Building Regulations**
 - Article II. – Building Standards
 - Article III. – Electrical Standards
 - Article IV. – Plumbing Standards
 - Article V. – Mechanical Standards
 - Article XI. – Swimming Pools
- **Chapter 5 – Fire Prevention and Protection**
 - Article III. – Fire Prevention Standards
- **Chapter 9 – Nuisances**
 - Article IV. – Property Maintenance Code

Overview



Review of amendments from August 2025 workshop.



Significant changes and amendments to the 2024 International Fire Code.



CONSTRUCTION CODES

- IRC – Single family homes, duplexes, townhomes
- IBC – Commercial and multi-family
- IECC – Insulation values, appliance efficiency, lighting wattages
- IPC – Water, sewer, and storm water
- IFGC – Natural gas, propane
- IMC – HVAC, exhaust, fresh air
- ISPSC – Both private and public pools and spas
- NEC – Electrical installation

MAINTENANCE CODES

- IPMC – takes effect once building construction is complete

CONSTRUCTION, MAINTENANCE, AND OPERATIONAL CODES

- IFC – includes construction codes, maintenance regulations, and operational standards



MODEL CODE HISTORY

- ❑ The International Code Council (ICC) currently produces the model building codes
- ❑ Prior to ICC, three separate organizations created their own model codes for adoption
 - Caused confusion for architects, engineers, and contractors to work under 3 distinct building codes
- ❑ In 1994, the three organizations merged to create the ICC and a single model building code
 - First editions release in 2000
 - New editions released one a three-year cycle



WHY DO WE HAVE CODES?

- ❑ To establish the minimum requirements to safeguard:
 - The public health, safety and general welfare through structural strength, means of egress, stability, sanitation, adequate light and ventilation, energy conservation, and safety
 - Life and property from fire and other hazards (*wind, flooding, freezing, moisture*) attributed to the built environment
- ❑ To provide safety to fire fighters and emergency responders during emergency operations.



TEXAS LOCAL GOVERNMENT CODE ADOPTION PROCEDURES

Recent Legislative Changes (87th Legislature, 2021)

- A municipality may not adopt a local amendment to the International Building Code unless it holds a public hearing (LGC 214.216)
- A municipality may not adopt a local amendment to the International Residential Code unless it holds a public hearing (LGC 214.212)

Municipalities with a Population of More Than 100,000

- The municipality shall publish the proposed amendments on their website for a minimum of 21 days prior to adoption and make a reasonable effort to encourage public comment (LGC 214.217)
- The municipality shall not implement nor enforce the new codes for at least 30 days after final adoption. (LGC 214.218)



TEXAS SB 1202

- ❑ **Texas Senate Bill 1202 (89th Legislature) significantly changed how municipalities handle permitting and inspections for residential backup power systems beginning September 1, 2025.**
 - Allows qualified third-party licensed engineers, electrical inspectors or master electricians to perform plan review and/or inspection
 - Third-party reviewed plans submitted for approval by CoL must be issued within three business days
 - We are obligated to accept and issue all Third-party submitted plans without denial
 - The utility providers requires CoL approval to energize these systems.



SIGNIFICANT CHANGES RESIDENTIAL CODES

- Recognizes mildly flammable A2L refrigerant use in newer HVAC systems which has a Lower global warming potential (GWP)
- Limits to Indoor Energy Storage Systems (ESS) maximum of 20kVh use with solar panels
- Vehicle Impact Protection required in Garages for Energy Storage Systems (ESS)
- Defines Sleeping Loft which makes it easier to permit Accessory Dwelling Unit and Backyard Cottages
- Reduced mechanical exhaust outlet clearance requirements which allows for denser developments



LOCAL AMENDMENTS RESIDENTIAL CODES

- Structural blocking required in wall framing for future grab bar installation (concept came from Certified Aging in Place specialists)
- Pull-down ladder or fixed stairway required to access to appliances in attics (code allows a “scuttle hole”). Must support 300 lbs.
- Removed provision to require a self-closing door between the garage and the residence
- Require gas lines to be buried a minimum of 18” (instead of 12” allowed by code)
- Adopt the “solar ready” provisions from the code appendix.



SIGNIFICANT CHANGES COMMERCIAL CODES

- Puzzle rooms (“escape rooms”) are identified as special amusement areas, which requires fire sprinklers, smoke detection system, emergency voice/alarm communication systems, and Class A interior finished. Special conditions for the puzzle room doors.
- At least 5%, but no fewer than one, of electrical vehicle charging spaces (if provided) shall be accessible.
- Shared Laundry facilities, shall provide accessible washers/dryers.
- Separate toilet rooms for each sex are not required when multi-user toilet rooms are designed to serve both sexes.



LOCAL AMENDMENTS COMMERCIAL CODES

- Amend the definition of “high-rise building” to a building having an occupied floor more than 55’ above the fire lane (code is 75’ above)
- Allows for a reduction in the minimum number of plumbing fixtures if justification is provided (i.e. large warehouses with small number of employees)
- Allow for more than 6 electrical service disconnects in multi-tenant buildings
- Provides alternative methods of compliance with the energy code (matches statutes in Texas Health & Safety Code)



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DEFINITIONS



Scooter



E-Bicycle



Bicycle



E-unicycle



Hoverboard



E-scooter

- Chapter 2 – used throughout the code
- **Powered Micromobility Devices.** Motorized bicycles, motorized scooters and other personal mobility devices powered by a lithium-ion or lithium metal battery. The term does not include motor vehicles that are required to be registered with the Department of Motor Vehicles for the state or jurisdiction. (2024 IFC)
- **Smoking.** The use or possession of a cigar, cigarette, hookah, or pipe containing tobacco or a tobacco product while the tobacco or tobacco product is burning, lighted, or ignited, regardless of whether the person using or possessing the product is inhaling or exhaling the smoke from such product. (Local)



Special Use Permits

A Special Use Permit (SUP) is required to operate a smoking establishment, including cigar bars and hookah lounges.



Section 310 – Smoking (Local)

Added a new definition for hookah lounges that is consistent with cigar bars.

Adjusted wording of the cigar bar definition so that it is consistent throughout the section.

Both establishments require 15% of sales to be related to the type of establishment (cigars, hookahs).

Allows consumption of food and beverages, including alcoholic beverages.





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POWERED MICROMOBILITY VEHICLES (2024 IFC)

- 322.1 General. Lithium-ion and lithium metal battery powered micromobility devices shall be operated and maintained in accordance with this section.
- Exceptions:
 - (1) Storage, repair and charging in residential occupancies of powered mobility devices, provided such devices are for personal use by the owner.
 - (2) Charging of a single powered mobility device in any occupancy by its owner.
- 322.1.1 Prohibited locations. The use of a residential occupancy as a business for the charging of commercially owned powered micromobility devices as part of a rental or sales service shall not be permitted.
- 322.2 Battery chargers and equipment. Powered micromobility devices shall be charged in accordance with their listing and the manufacturer's instructions using only the original equipment manufacturer-supplied charging equipment or charging equipment with the listing and manufacturer's instructions.
- 322.3 Listing. Powered micromobility devices shall be listed and labeled in accordance with UL 2272 or UL 2849, as applicable.



POWERED MICROMOBILITY VEHICLES (2024 IFC)

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- 322.4 Battery charging areas. Where approved, powered micromobility devices shall be permitted to be charged in a room or area that complies with all of the following:
 1. Is provided with sufficient electrical receptacles to allow the charging equipment for each device to be directly connected to a receptacle. Extension cords and relocatable power taps shall not be used.
 2. No storage of combustible materials, combustible waste or hazardous materials.
 3. The charging operations shall not be conducted in or obstruct any required means of egress from the room or area.
 4. Removable storage batteries shall not be stacked or charged in an enclosed cabinet unless the cabinet is specially designed and approved for such purpose.
 5. A minimum distance of 18 inches (457.2 mm) shall be maintained between each removable storage battery during charging operations unless each battery is isolated from neighboring batteries by an approved fire-resistant material.
 6. A minimum of 18 inches (457.2 mm) shall be maintained between the location of the battery on each powered micromobility device during charging operations.
 7. The indoor room or area shall be protected by a fire alarm system utilizing air-aspirating smoke detectors or radiant energy-sensing fire detection.
 - 322.5 Fire safety plan. A fire safety plan shall be prepared and maintained in accordance with Section 403.10.6. In addition, the fire safety plan shall include emergency response actions to be taken upon detection of a fire or possible fire involving lithium-ion or lithium metal battery storage.

Electric Vehicle Chargers

(2024 IFC)

- Section 323 Electrical Vehicle Power Transfer System

323.1 General.
Electrical Vehicle Power Transfer Systems shall have a disconnecting means in accordance with the Article 625 of the 2023 edition of NFPA 70, National Electric Code.





Parking Garages (Local)

- 903.2.10. Group S-2 Parking Garages. Delete the following item:

Where the fire area of the open parking garage, in accordance with Section 406.5 of the International Building Code, exceeds 48,000 square feet.

- By deleting the above section, all future parking garage structures will be required to be sprinklered.
- This restores the original intent with regards to parking garages going back to the 2018 IFC adoption



LITHIUM-ION AND LITHIUM METAL BATTERIES (2024 IFC)

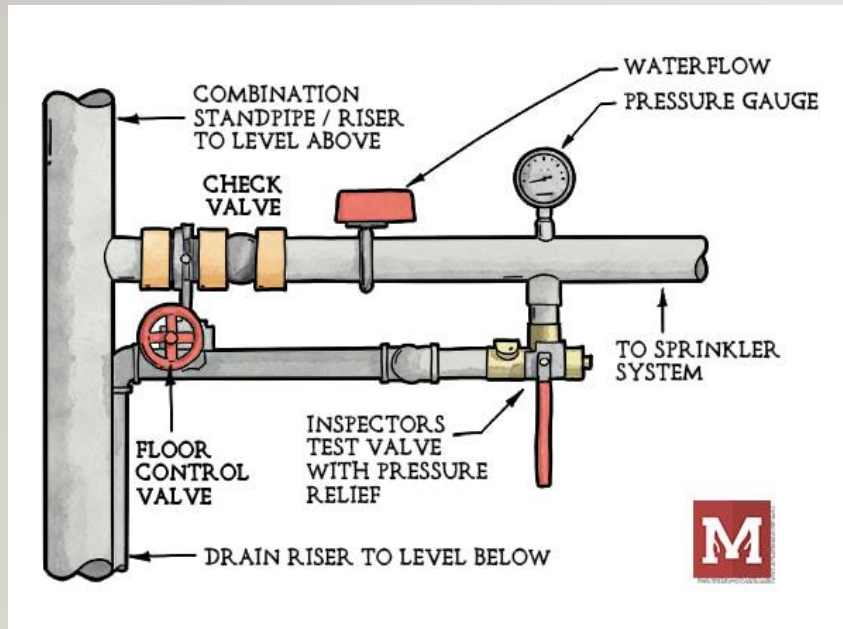
- Section 403.10.6:
- 403.10.6 Lithium-ion and lithium metal batteries. An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for occupancies that involve activities for the research and development, testing, manufacturing, handling or storage of lithium-ion batteries or lithium metal batteries, or the repair or servicing of vehicles powered by lithium-ion batteries or lithium metal batteries.
- Exceptions: A fire safety and evacuation plan is not required for the storage or merchandizing of any of the following:
 1. New or refurbished batteries installed for use in the equipment or vehicles they are designed to power.
 2. New or refurbished batteries packed for use with the equipment or vehicles they are designed to power for merchandizing purposes.
 3. New or refurbished lithium-ion batteries rated at not more than 300 watt-hours and lithium metal batteries containing not more than 25 grams of lithium metal in their original packaging.
 4. The storage, repair and charging activities in detached one- and two-family dwellings and townhouses, provided that such devices are for personal use.
 5. The storage, repair and charging activities associated with personal use in sleeping units and dwelling units of Group R-1 and R-2 occupancies.
- 403.10.6.1 Mitigation planning. The approved fire safety and evacuation plan shall include thermal runaway event mitigation measures. These measures shall include activities undertaken to prevent thermal runaway, early detection of a thermal runaway event and mitigation measures to be undertaken to limit the size of the event on occupants and the facility.

Fire Control Rooms (Local)

- 903.7 Fire Control Rooms
 - Changed size requirement from 5 ft x 7ft to minimum 35 sq ft.
 - Added exceptions for sprinkler systems installed in townhomes and single-family homes.
 - Added exception for sprinkler systems installed in apartment buildings.
 - Allows for different configurations, but still must meet the minimum requirements outlined in NFPA 13 (minimum 3 ft clearance around sprinkler risers) and NFPA 72 (minimum 30" clearance for fire alarm panels).
 - Removed height requirement for exterior horn/strobe.
 - Allows for flexibility to ensure the horn/strobe is in a visible location.



FLOOR CONTROL VALVES FOR SPRINKLER SYSTEMS (LOCAL)



- Add Section 903.3.9 Floor Control Valve Assemblies. Where required by the *fire code* official, multistory buildings exceeding two stories in height shall be provided with a floor control valve, check valve, pressure gauge, main drain valve, and flow switch for isolation, control, and annunciation of water flow for each individual level.
- New Technical Bulletin will outline requirements for Floor Control Valve Assemblies.
- Floor Control Valve Assemblies will be required in all multistory buildings greater than two stories that are protected by a system in accordance with NFPA 13 where the floors are greater than 5,000 sq ft.



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FIRE WATCHES (LOCAL)

- Add a second paragraph to Section 112.3.1
- The fire code official is authorized to post a notice of impaired fire protection systems, unsafe conditions, or other violations at or near the entrance or entrances to such premises.
- Add an additional paragraph to Section 901.7. A fire watch shall be in accordance with the Lewisville Fire Marshal's Office Fire Watch Technical Bulletin.
- Third Party Fire Watch is required when a building has a sleeping or dwelling unit, the building is over three stories, or when required by the Fire Marshal.

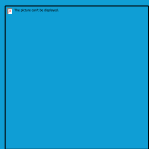
Occupant Notification (Local)



Currently, an audio/visual device is required in all suites of multi-tenant buildings to provide indication of a sprinkler waterflow condition.



Large, single occupancy buildings do not have a requirement for a device to signal sprinkler waterflow until they exceed a certain occupant load (i.e., 300 for assembly, 500 for manufacturing) or have no requirement at all.



Proposed amendment would require an audio/visual device to be installed near a constantly attended location in single occupancy buildings that are 10,000 square feet or larger.



Fireworks

- Section 5-153. Declaration of nuisance; seizure and destruction
 - Changed authority from “fire prevention division of the community development department” to the “fire marshal’s office”
 - Added statement that all seizures of fireworks will be in accordance with Section 342.013 of the Texas Local Government Code.



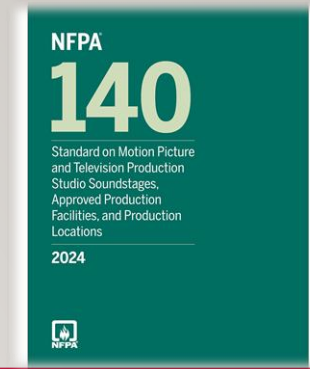
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SIGNIFICANT CHANGES TO THE 2024 IFC UPDATE

- Emphasis:
 - Emerging Technologies
 - Lithium-ion battery hazards
 - Existing building safety
 - Emergency responder communications
 - Energy storage systems
 - Temporary structures and events
 - Carbon monoxide detection



PROPOSED LOCAL AMENDMENTS



- EV charging locations in parking garages (COG)
 - First floor or top floor of parking garages
- Retail strip center modification to sprinkler requirement (local)
 - Increase sprinkler threshold in existing retail strip centers to 5,000 square feet unless otherwise required in Section 903.
- NFPA 140 (local)
 - Adds NFPA 140, Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations.
- Operational Permits (local)
 - Massage Establishments
 - Modeled after Harris County Fire Marshal's Office





EMERGING HAZARDS (2024 IFC)

- Battery Storage
 - New requirements include
 - Storage limitations
 - Thermal runaway mitigation
 - Fire safety plans
 - Separation distances
 - Ventilation requirements
 - Hazard mitigation analysis
- Powered Micromobility Devices
 - Charging limitations
 - Storage restrictions
 - Fire protection requirements
 - Means of egress considerations



Scooter



E-Bicycle



Bicycle



E-unicycle



Hoverboard

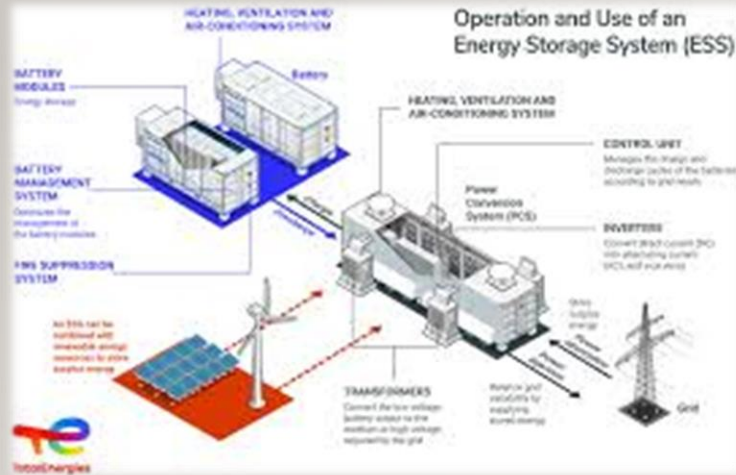


E-scooter



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ELECTRICAL ENERGY STORAGE SYSTEMS (2024 IFC)



- Significant Revisions
 - Reorganized ESS requirements
 - Expanded hazard mitigation analysis
 - Failure Modes and Effects Analysis
 - Enhanced ventilation and suppression requirements
 - Clarified installation thresholds
- Impacts
 - Solar + battery projects
 - Utility-scale systems
 - Commercial installations





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OTHER CHANGES (2024 IFC)

- Updated Emergency Responder Communication Systems
- Updated rooftop occupancy provisions
- New/Updated Requirements for:
 - Cooking operations in tents
 - Temporary heating permits
 - Inflatable amusement devices
 - Temporary membrane structures





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OTHER CHANGES (2024 IFC)

- Distilled Spirits & Specialized Storage
 - Added/Expanded Regulations
 - Distilled Spirits Storage
 - Bulk beverage storage
 - Flammable liquid equivalences
 - Warehouse protections
- Refrigeration System Updates
 - New requirements
 - CO2 Refrigeration systems
 - Alternative refrigerants
 - Machinery room provisions
 - Leak detection and ventilation





NEXT STEPS

- Finalize review with Legal Department
- Publish proposed amendments to the City's website & take public comments (minimum 21 days)
- Schedule public hearing before City Council
- Notify construction community of changes
- Implement the 2024 I-Codes and 2026 NEC 30 days after adoption by City Council



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QUESTIONS?

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