

Building Code Board of Appeals

Agenda

**June 21, 2018
City Hall,
Conference Maple
749 Main Street
6:30 PM**

- I. Call to Order
- II. Roll Call
- III. Approval of Agenda
- IV. Approval of Minutes
 - April 19, 2018
- V. Public Comments on Items Not on the Agenda
- VI. Regular Business
- VII. Discussion
 - 2018 Adoption of IBC, IRC, IPMC, IPC, IMC, IFGC, IEBC, IECC, IFC
 - Adoption of 1997 Abatement of Dangerous Building Code
 - Revoking a Contractor's License
 - August Board Meeting
- VIII. Update
- IX. Staff Comments
- X. Board Comments
- XI. Date of next meeting
 - Upon request
- XII. Discussion Items for Next Meeting
- XIII. Adjourn

Building Code Board of Appeals

Meeting Minutes

**April 19, 2018
City Hall, Maple Room
749 Main Street
6:30 PM**

Call to Order: Novik called the meeting to order at 6:35 PM.

Roll Call was taken and the following members were present:

Board Members Present: Ed Novik
Peter Geise
Matt Berry
Heidi Tribelhorn
Steve Knapp

Board Members Absent: Tom Ramsey

Staff Members Present: Chad Root, Chief Building Official
Elizabeth Schettler, Senior
Administrative Assistant
Sam Light, City Attorney

Approval of Agenda:

Knapp moved and **Tribelhorn** seconded a motion to approve the agenda as prepared by staff. Voice vote. Motion passed 5-0.

Approval of Minutes:

Novik moved and **Berry** seconded a motion to approve the February 15, 2018 minutes as prepared by staff. Voice vote. Motion passed 5-0.

Public Comments on Items not on the Agenda:

None heard.

Regular Business:

None heard.

Discussion Items:

2018 ICC Code Adoption

Root states that he is collecting the amendments needed to present to the board for approval at the next board meeting in order to continue the process of adopting the 2018 building code this year. There are very few amendments being considered for existing buildings but the main ones are related to the 2018 IRC and 2018 IBC.

Root also mentions the energy conservation code and discusses with the board the drawbacks of fully adopting the 2018 energy code without any amendments. He states that the energy code is very stringent and that the board should review the code in case any amendments should be made.

City Licensed Contractors – Process of Revoking a License

Root informs the board that the department has received a complaint from a homeowner about a city licensed general contractor who was hired to complete a permitted job. The homeowner was displeased with the general contractor and proposed to staff to revoke the contractor's license so the individual can no longer work within the city for a period of time.

The city attorney informs the board that because the board has not adopted its own procedure of revoking a contractor license, the board is advised to not discuss the subject until staff has developed such a process. The board agreed that this should be tabled for the next board meeting once staff has developed a structured process and had it reviewed by the city attorney.

Tribelhorn moved and **Berry** seconded a motion to continue the discussion of revoking a license at the next board meeting so Staff can draft a procedure for this process. Voice vote. Motion passed 5-0.

Open Government Training with City Attorney

The city attorney concluded the agenda with open government training. The city attorney discussed the roles of the Building Code Board of Appeals, what quasi-judicial hearings are and why the process matters, and the ethics behind participating on a board.

Staff Comments:

None heard.

Discussion Items for Next Meeting:

None heard.

Adjourn:

Novik moved and **Tribelhorn** seconded a motion to adjourn the meeting. Motion passed unanimously by voice vote. The meeting was adjourned at 8:27 PM.

2018 International Building Code

- **Chapter 15.04 - 2018 INTERNATIONAL BUILDING CODE⁽¹⁾**

- **Sec. 15.04.010. - Adoption.**

The International Building Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The purpose and subject matter of the International Building Code include regulating construction aspects of building through comprehensive provisions and standards regulating the erection, construction, enlargement, alteration, equipping, use, height, area, and maintenance of buildings and structures and providing greater safety to the public by uniformity in building laws. Except as otherwise provided in this chapter, the 2018 International Building Code is adopted in full, including the outline of contents, index, and appendices as adopted herein and contained therein. Any reference to the International Building Code within this chapter shall be to the 2018 Edition of such code.

- **Sec. 15.04.020. - Amendments.**

The following amendments set forth in sections [15.04.030](#) through [15.04.110](#) are made to the 2018 International Building Code.

- **Sec. 15.04.030. - Appendices adopted.**

The following appendices of the 2018 International Building Code are hereby specifically adopted; any appendices not listed are not adopted: Appendix C, Agricultural Buildings; Appendix G, Flood-Resistant Construction; Appendix I, Patio Covers; Appendix J, Grading.

- **Sec. 15.04.040. - Section 101.1 amended—Title.**

Section [A]101.1 of the 2018 International Building Code is amended to insert "the City of Louisville" so the section will read:

[A]101.1 Title. These regulations shall be known as the Building Code of the City of Louisville, hereinafter referred to as "this code."

- **Sec. 15.04.050. - Section [A]109.2 amended—Schedule of permit fees.**

Section [A]109.2 of the 2018 International Building Code is amended to read as follows:

[A]109.2 Schedule of permit fees. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid in accordance with a fee schedule adopted by resolution of the City Council from time to time.

- **Sec.15.40.060.- Section 104 is amended to read as follows:**

104.1 General.

The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and other ICC Codes and has the ability to

2018 International Building Code

adopt policies and procedures in order to clarify the application of their provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code along with scientific data and engineering practices. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code but should give latitude for good science and engineering practices.

- **Sec. 15.04.070. - Section [A]105.5 amended—Permit expiration.**

The first paragraph of *Section [A]105.5* of the 2018 International Building Code is hereby amended to read as follows:

[A]105.5 Expiration. Except for permits for alterations involving only one discipline, every permit issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Every permit for alterations involving only one discipline which is issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 90 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 90 days. Before such work can be recommenced, a new permit shall be first obtained to do so, and the fee therefore shall be one half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work, and provided further that such suspension or abandonment has not exceeded one year. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee.

- **Sec. 15.04.075.- Section 1010.1.9.4 Locks and latches.**
- Section 1010.1.9.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

- 1. Places of detention or restraint.
- 2. In buildings in occupancy Groups B, F, M and S, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked.
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 2.3. The use of the key-operated locking device is revokable by the fire code official for due cause.
- 3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
- 4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
- 5. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.
- 6. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.

2018 International Building Code

- **Sec.15.04.077.- Section 1030.1 General Emergency Escape and Rescue has been rewritten as follows:**

Section 1030.1 General.

In addition to the means of egress required by this chapter, emergency escape and rescue openings shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one exit or access to only one exit as permitted by Tables 1006.3.3(1) and 1006.3.3(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth story above grade plane shall have not fewer than one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency escape and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

Exceptions:

1. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.
2. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.
3. Basements without habitable spaces and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have emergency escape and rescue openings.

- **Sec.15.04.078.- Section 1604.8.3 is Amended**

Section 1604.8.3 Decks. Decks that are structurally supported from an existing structure shall be engineered by a structural engineer that is licensed with the State of Colorado. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. Connections of decks with cantilevered framing members to exterior walls or other framing members shall be designed for both of the following:

1. The reactions resulting from the dead load and live load specified in Table 1607.1, or the snow load specified in Section 1608, in accordance with Section 1605, acting on all portions of the deck.

2018 International Building Code

2. The reactions resulting from the dead load and live load specified in Table 1607.1, or the snow load specified in Section 1608, in accordance with Section 1605, acting on the cantilevered portion of the deck, and no live load or snow load on the remaining portion of the deck.

- **Sec. 15.04.080. - Section 1609 added—Wind loads.**

The following *Section 1609.3.2* is added to the 2018 International Building Code:

Section 1609.3.2. Wind Speeds. The minimum basic wind speed for determining wind pressure shall be in accordance with this Section 1609 and the Colorado Front Range Gust Map Study ASCE 7-05.

- **Sec. 15.04.090. - Section 1608.2 amended—Ground snow loads.**

Section 1608.2 of the 2018 International Building Code is amended by the addition of the following sentence inserted at the end of the section:

The ground snow load shall be 30 pounds per square foot.

- **Sec. 15.04.100. - Section 1809.5 amended—Frost protection.**

Item 1 of *Section 1809.5* of the 2018 International Building Code shall read as follows:

1.

Extending 36 inches below finished grade;

- **Sec.15.40.105.- Section 3001.1 Scope is amended as follows:**

3001.1 Scope.

This chapter governs the design, construction, installation, alteration and repair of elevators and conveying systems and their components. All elevators that serve accessible residential units shall have secondary means of power such as a generator to maintain operation while primary power is down.

- **Sec.15.04.108. -The Following Appendix's where adopted with the 2018 IBC:**

- Appendix C
- Appendix F
- Appendix I
- Appendix J
- Appendix K
- Appendix N

- **Sec. 15.04.110. - Copies available.**

At least one copy of the International Building Code and one copy of each secondary code pertaining thereto, as amended herein, all certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division between the hours of 8:00 a.m. and 4:00 p.m., Monday through

2018 International Building Code

Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available at <https://codes.iccsafe.org/public/collections/1-Codes>

- **Sec. 15.04.130. - Violations and penalties.**

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in [section 1.28.010](#).

- **Sec. 15.04.140. - Fireplace installation.**

A. Any new or remodeled fireplace to be installed or constructed in any dwelling in the city shall be one of the following:

1. A gas appliance;
2. An electric device; or
3. A fireplace or fireplace insert that meets the most stringent emissions standards for wood stoves established by C.R.S. Title 25, [Article 7](#) and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations or any other clean burning device that is approved by the Air Quality Control Commission Regulations.

B. It is unlawful for any person to install or construct any new or remodeled fireplace which does not comply with this section. Any person convicted of a violation of this section shall be subject to the penalty provided in [section 1.28.010](#).

- **Sec. 15.04.150. - Design Handbook for Downtown Louisville to apply.**

Any addition, remodeling, relocation, construction, or other improvement within Downtown Louisville and requiring a building permit, sign permit, or any other permit from the city shall comply with all requirements of the Design Handbook for Downtown Louisville, as adopted and amended from time to time.

- **Sec. 15.04.160. - Industrial and Commercial Development Design Standards and Guidelines to apply.**

Any addition, remodeling, relocation, construction, or other improvement to an industrial property or project within the city and requiring a building permit, sign permit, or any other permit from the city shall comply with the requirements of City of Louisville Industrial Development Design Standards and Guidelines (IDDSG) and the Commercial Development Design Standards (CDDSG) as adopted and amended from time to time.

- **Chapter 15.05 – 2018 INTERNATIONAL RESIDENTIAL CODE^[1]**

- **Sec. 15.05.010. - Adoption.**

The International Residential Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The subject matter of the International Residential Code is to regulate and govern the construction, alteration, movement, enlargement, replacement, repair, equipment, location, removal and demolition of detached one and two family dwellings and multiple single family dwellings (townhouses) not more than three stories in height with separate means of egress in the City of Louisville, and providing for the issuance of permits and collection of fees therefor.

- **Sec. 15.05.020. - Amendments to the 2018 International Residential Code.**

The following amendments set forth in sections [15.05.030](#) through [15.05.090](#) are made to the 2018 International Residential Code.

- **Sec. 15.05.030. - Section R101.1 amended—Title.**

Section R101.1 of the 2012 International Residential Code is amended to insert "the City of Louisville" so the section will read:

R101.1 Title. These provisions shall be known as the Residential Code for One- and Two-Family Dwellings of the City of Louisville, and shall be cited as such and will be referred to herein as this code.

- **Sec.15.05.34.-**

- **Sec. 15.05.35.- Section [A]105.2 amended—Work exempt from permit.**

The following paragraph is added to the Building portion of *Section [A]105.2* of the 2018 International Residential Code:

11. PERMIT NOT REQUIRED. A Building Permit will NOT be required for the renovation, remodel and/or repair of an existing single family residence only where:

- a) The work is to be done by the owner or occupant, and
- b) The size of the structure will not be increased, and
- c) The structural members (design) i.e., foundations, underpinning, bearing, or framing, will not be altered or changed, and
- d) The scope of the work will exclude any electrical, plumbing or heating, and
- e) The TOTAL COST of labor and materials will not exceed \$2,500.00.

12. Windows that are being replaced in a like for like situation with no structural changes to the building do not need a building permit. This is for only those structures that fall under the IRC and are owner occupied.

- **Sec.15.05.36.- Section R 105.2.1 Emergency Repairs is amended to read the following:**

R105.2.1 Emergency repairs. Where repairs to a structure, equipment replacements and other repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official. During a large scale event such as a Hail or Wind storm event or Tornado requirements for roofing permits maybe deferred or suspended until as such time as a proved by the Building Official.

- **Sec. 15.05.040. - Section R108.2 amended—Schedule of permit fees.**

Section R108.2 of the 2018 International Residential Code is amended to read as follows:

R108.2 Schedule of permit fees. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid in accordance with a fee schedule adopted by resolution of the City Council from time to time.

- **Sec.15.05.041-*The following section is hereby amended to read as follows:***
R108.9 Temporary Certificate of Occupancy. There will be a \$600 fee for a temporary certificate of occupancy if approved by the CBO. A Temporary Certificate of Occupancy shall be valid for 180 days. If a full Certificate of Occupancy is issued within the first 30 days, all but \$40 will be refunded. If a full Certificate of Occupancy is issued prior to the 180 day expiration, \$100 shall be refunded for each full 30 day period remaining out of the original six month validity period of the Temporary Certificate of Occupancy.
- **Sec.15.05.042-** The following section is hereby amended to read as follows:
109.3 Building permit valuations. The applicant for a *permit* shall provide an estimated *permit* value at time of application. *Permit* valuations shall include total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the *building official*, the valuation is underestimated on the application, the *permit* shall be denied, unless the applicant can show detailed estimates to meet the approval of the *building official*. Final building *permit* valuation shall be set by the *building official*.
- **Sec.15.05.043-*The following section is hereby amended to read as follows:***
R110.1 Use and occupancy. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy therefore as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other county ordinances. Certificates presuming to give authority to violate or cancel the provisions of this code or other county ordinances shall not be valid.

Exceptions:

1. Certificates of occupancy are not required for work exempt from permits under Section R105.2.

2. Cabins, agricultural and accessory buildings and miscellaneous permits shall not receive certificates of occupancy; a letter of completion will be given upon request.

- **Sec. 15.05.050. - Table R301.2(1) revised.**
 - *Table R301.2(1) 2018 International Residential Code is filled in as follows:*

TABLE R301.2(1) CLIMATE AND GEOGRAPHIC DESIGN CRITERIA													
GROUND SNOW LOAD	WIND DESIGN				SESMIC DESIGN CATEGORY ^d	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^b	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^e	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph)	Topographic effects ^k	Special wind region ^l	Windborne debris zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c					
30 lbs	115mph 3 Sec Gust	B	YES	"C" Unless Proven	B	Severe -5B	36	Slight	1 Degree	Yes	2012	1000-2000	47 Degrees

MANUAL J DESIGN CRITERIA ⁿ								
Elevation	Latitude	Winter heating	Summer cooling	Altitude correction factor		Indoor design temp.	Design temp. cooling	Heating temperature difference
5385	40 North	0	91	0.84		70	75	69
Cooling temperature difference	Wind velocity heating	Wind velocity cooling	Coincident wet bulb	Daily range		Winter humidity	Summer humidity	
16	15 MPH	7.5 MPH	59	High		50%	30%	

○ TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

* Based on Colorado Front Range Gust Map Study ASCE 7-05.

- **Sec.15.05.053** – Exception # 2 for the following section was deleted.
R310.1 Emergency escape and rescue opening required. Exception 2 is Deleted as follows: “ 2. Where the dwelling or townhouse is equipped with an automatic sprinkler system

installed in accordance with Section P2904, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:

2.1. One means of egress complying with Section R311 and one emergency escape and rescue opening.

2.2. Two means of egress complying with Section R311.”

- **Sec.15.05.054- The following section has been amended to read as follows:**
R507.1 Decks. Wood-framed decks shall be in accordance with this section. For decks using materials and conditions not prescribed in this section, refer to Section R301, all decks that are structurally supported from an existing residential home shall be engineered.
- **R301.Sec.15.05.0547 –** The following section is hereby amended to read as follows:
N1101.1 Scope. . This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code except agricultural and detached accessory buildings not used as a residential structure shall be exempt from the Energy Code. The City of Louisville Prescriptive Energy Code and Design Criteria maybe used in Lieu of the 2018 IRC Energy Efficiency Code and will be inspected by City Inspectors. If Chapter 11 of the 2018 IRC is used then all inspections under Chapter 11 in the IRC will be done by a third p[arty inspectors and will need to have a commissioning report done by the third party inspector before a final will be issued. The prescriptive portion in Chapter 11 of the IRC has been replaced by the City of Louisville Prescriptive Energy Code and Design Criteria.

City of Louisville Prescriptive Energy Code

In Lieu of the 2018 IECC

- **Both Residential and Commercial Heated Structures shall follow all of the following to be considered under the Prescriptive Energy Code. All other energy code options will need to be inspected and Certified before final inspection is done by a third party inspection group.**
- **Insulation all Heated Structures (including core /shell)**
 - **R-49 Ceiling**
 - **R-21 Exterior Walls**
 - **R-19 Basement Walls**
 - **R-38 Under Floors (with unconditioned space below)**
 - **R-10 Under Concrete Slabs**
 - **R-3 Hot Water Lines Insulated**
- **Windows and Glazing U Factors**
 - **U- .30 on Windows**
 - **U- .55 on Skylights**

- **Electrical**
 - Structures shall be built to be Solar Ready
 - Timers on Bathroom Exhaust Residential
 - Commercial Buildings Need Light occupant sensors
 - Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage
 - 90% or more of all light fixtures shall contain high-efficiency lamps
- **Mechanical**
 - Residential Structures 90% Plus Furnaces 90% Plus Boilers
 - Commercial Structures 85% Plus RTU
 - A/C Units-14 SEER
 - Occupancy sensors on Thermostatic set back controls (Brings building to lower temp)
 - Manual J and D will be required on residential additions greater than 500 Sq. Ft.
- **Natural Lighting**
 - Commercial Buildings need 3% of Roof to be skylights unless used for solar panels
 - Commercial glazing shall not be less than
- **Air Changes**
 - All New Residential shall be tested to verify air leakage rate does not exceed 3 air changes an hour and shall have whole house mechanical ventilation with section M1505.4.

DESIGN CRITERIA

Snow Load:	30 lbs/sf
Wind speed:	115 mph for 3 second gust
	100 mph fastest mile
	<i>D3161 test with Class F Application</i>
Wind Exposure:	"C" until proven otherwise for greater restrictions
Seismic Zone:	B
Frost line depth:	36" below finished grade (LMC 15.05.050)
Weathering:	Severe – Climate Zone 5B
Termite:	Slight
Decay:	Slight
Winter Design Temp:	1 degree
Anticipated Snow:	6"
Ice & Water Shield:	Required on ALL Shingled Roofs – Eaves only
	<i>Must extend from the lowest edges to a point at least 24" inside the exterior wall line of the building.</i>
Drip Edge:	Required on both eaves and rakes of roof.

Air Freezing Index: <1000
Mean Annual Temp: 47 degrees
Elevation: 5,337 feet above sea level.
Current code: 2018 IBC, IRC, IFC, IPC, IFGC, IMC, IECC, IEBC, IPMC, 1997 Uniform Code for the Abatement of Dangerous Building Code and NEC 2017

Remember:

Sump Pumps: Can NOT drain into sanitary or storm sewer.
Daylight into lawn away from foundation.
Perimeter foundation systems go to sump pit then sump pump and sump pump to lawn.

Drainage from House: Slope at least 6" in the 1st 10 feet.

Retaining Walls: Less than 48" from the bottom of the footing to top the retaining wall with no surcharge does not require a permit.
Over 48" from the bottom of the footing to top the retaining wall, or ANY wall with surcharge, requires stamped engineered plans.

Backflow Preventer: Required on residential irrigation systems. (See cross connection control manual)

Hot Water Heaters: Require expansion tanks for ALL hot water heaters.
Required to have a drain pan if placed on a wood floor.

www.iccsafe.org for International codes, books, licensing etc.

www.energycodes.gov/rescheck or just google rescheck

www.epa.gov for fireplaces look under woodstoves or cdphe.state.co.us

- **Sec.15.05.058-** The following section is hereby added to read as follows:

G2447.6 Kitchens with gas ovens. In new construction, kitchens with gas cooking appliances shall be supplied with an exhaust system vented to the outside. Ducts serving kitchen exhaust systems shall not terminate in an attic, crawl space or areas inside the building and shall not induce or create a negative pressure in excess of negative 3 Pa or adversely affect gravity-vented appliances

- **Sec.15.05.059** The following section is hereby amended to read as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation be tested by water or , by 5 psi of air with no evidence of leakage.

- **Sec. 15.05.060. - Section P2603.6.1 amended.**

The number "36" is inserted in two locations of *Section P2603.6.1* of the 2018 International Residential Code so the section will read as follows:

P2603.6.1. Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 36 inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 36 inches below grade.

- **Sec. 15.05.080. - Section P3103.1 amended.**

The number "12" is inserted in two locations of *Section P3103.1* of the 2012 International Residential Code so the section will read as follows:

P3103.1. Roof extension. All open vent pipes which extend through a roof shall be terminated at least 12 inches above the roof or 12 inches above the anticipated snow accumulation, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.

- **PART VIII – ELECTRICAL**

CHAPTERS 34-43 DELETED

Chapters 34 through 43 from the 2018 International Residential Code are hereby deleted in their entirety, and replaced with the latest edition of the National Electrical Code as adopted and enforced by the State of Colorado Electrical Board.

- **Sec. 15.05.090. - Copies available.**

At least one copy of the International Residential Code and one copy of each secondary code pertaining thereto, as amended herein, all certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price the public may look at the free online copy of the 2018 IRC at the following link <https://codes.iccsafe.org/public/collections/I-Codes>

- **Sec. 15.05.100. - Violations and penalties.**

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in [section 1.28.010](#).

- **Sec. 15.05.110. - Fireplace installation.**

A.

Any new or remodeled fireplace to be installed or constructed in any dwelling in the city shall be one of the following:

1. A gas appliance;
2. An electric device; or
3. A fireplace or fireplace insert that meets the most stringent emissions standards for wood stoves established by C.R.S. Title 25, [Article 7](#) and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations or any other clean burning device that is approved by the Air Quality Control Commission Regulations.

B.

It is unlawful for any person to install or construct any new or remodeled fireplace which does not comply with this section. Any person convicted of a violation of this section shall be subject to the penalty provided in [section 1.28.010](#).

Sec.15.05.120-The Following Appendix's where adopted with the 2018 IRC:

Appendix A Sizing and Capacities of Gas Piping. It provides design guidance, useful facts and data and multiple examples of how to apply the sizing tables and sizing methodologies of Chapter 24.

Appendix B Sizing of Venting Systems Serving Appliances Equipped with Draft Hoods, Category I Appliances, and Appliances Listed for Use with Type B Vents. It contains multiple examples of how to apply the vent and chimney tables and methodologies of Chapter 24.

Appendix C Exit Terminals of Mechanical Draft and Direct-vent Venting Systems. It consists of a figure and notes that visually depict code requirements from Chapter 24 for vent terminals with respect to the openings found in building exterior walls.

Appendix D Recommended Procedure for Safety Inspection of an Existing Appliance Installation. It provides recommended procedures for testing and inspecting an appliance installation to determine if the installation is operating safely and if the appliance is in a safe condition.

Appendix F Radon Gas Methods. Radon comes from the natural (radioactive) decay of the element radium in soil, rock and water and finds its way into the air. Appendix F contains requirements to mitigate the transfer of radon gases from the soil into the dwelling. The provisions of this appendix regulate the design and construction of radon-resistant measures intended to reduce the entry of radon gases into the living space of residential buildings.

Appendix G Piping Standards for Various Applications. Appendix G provides standards for various types of plastic piping products. This appendix is informative and is not part of the code.

Appendix H Patio Covers. Appendix H sets forth the regulations and limitations for patio covers. The provisions address those uses permitted in patio cover structures, the minimum design loads to be assigned for structural purposes, and the effect of the patio cover on egress and emergency

escape or rescue from sleeping rooms. This appendix also contains the special provisions for aluminum screen enclosures in hurricane-prone regions.

Appendix J Existing Buildings and Structures. Appendix J contains the provisions for the repair, renovation, alteration and reconstruction of existing buildings and structures that are within the scope of this code. To accomplish this objective and to make the rehabilitation process more available, this appendix allows for a controlled departure from full code compliance without compromising minimum life safety, fire safety, structural and environmental features of the rehabilitated existing building or structure.

Appendix M Home Day Care—R-3 Occupancy. Appendix M provides means of egress and smoke detection requirements for a Group R-3 Occupancy that is to be used as a home day care for more than five children who receive custodial care for less than 24 hours. This appendix is strictly for guidance and/or adoption by those jurisdictions that have Licensed Home Care Provider laws and statutes that allow more than five children to be cared for in a person's home. When a jurisdiction adopts this appendix, the provisions for day care and child care facilities in the IBC should be considered also.

Appendix N Venting Methods. Because venting of sanitary drainage systems is a difficult concept to understand, and Chapter 31 uses only words to describe venting requirements, illustrations can offer greater insight into what the words mean. Appendix N has a number of illustrations for commonly installed sanitary drainage systems in order for the reader to gain a better understanding of this code's venting requirements.

Appendix P Sizing of Water Piping System. Appendix P provides two recognized methods for sizing the water service and water distribution piping for a building. The method under Section AP103 provides friction loss diagrams that require the user to "plot" points and read values from the diagrams in order to perform the required calculations and necessary checks. This method is the most accurate of the two presented in this appendix. The method under Section AP201 is known to be conservative; however, very few calculations are necessary in order to determine a pipe size that satisfies the flow requirements of any application.

Appendix S Strawbale Construction. This appendix provides prescriptive requirements for the use of strawbale as a construction material. It is limited in application to the walls of one-story structures, except where additional engineering is provided.

Appendix T Solar-ready Provisions—Detached One- and Two-family Dwellings and Townhouses. This appendix provides requirements for preparation of a house for future installation of solar equipment for electrical power or heating. Given the growing popularity of solar power and the possible need for the equipment in the future, this appendix, if adopted, would require an area be provided on the building roof that would accommodate solar equipment. In addition, pathways for routing of plumbing and conduit need to be provided.

DRAFT

- **Chapter 15.21 - 2018 International Property Maintenance Code**

- **Sec. 15.18.010. - Adoption.**

The International **Property Maintenance** Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The subject matter of the International Existing Building Code is regulate and govern existing buildings and installation of electrical, plumbing, mechanical, lighting, energy conservation systems and power systems in the City of Louisville, and providing for the issuance of permits and collection of fees therefor.

- **Sec. 15.18.020. - Section 101.1—Title.**

Section 101.1 of the 2018 International **Property Maintenance** Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the 2018 **Property Maintenance** Code of the City of Louisville, hereinafter referred to as "this code."

- **Chapter 15.16 – 2018 INTERNATIONAL PLUMBING CODE^[1]**

- **Sec. 15.16.010. - Adoption.**

The International Plumbing Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is adopted by reference thereto and incorporated into and made part of the Louisville Municipal Code. The purpose and subject matter of the International Plumbing Code, include comprehensive provisions regulating plumbing installations in or in connection with new and existing structures and providing International plumbing standards for the purpose of protecting the public health, safety and general welfare.

- **Sec. 15.16.020. - Amendments.**

The following amendments set forth in sections [15.16.030](#) through [15.16.130](#) are made to the 2018 International Plumbing Code.

- **Sec. 15.16.030. - Section 101.1 amended—Title.**

Section 101.1 of the 2018 International Plumbing Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Plumbing Code of the City of Louisville, hereinafter referred to as "this code."

- **Sec. 15.16.040. - Section 106.6.2 amended—Schedule of permit fees.**

Section 106.6.2 of the 2018 International Plumbing Code is amended to read as follows:

106.6.2 Schedule of permit fees. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid in accordance with a fee schedule adopted by resolution of the City Council from time to time.

- **Sec. 15.16.050. - Section 106.6.3 amended—Refunds.**

Section 106.6.3 of the 2018 International Plumbing Code is amended to read as follows:

106.6.3 Refunds. The Building Official is authorized to establish a refund policy.

- **Sec. 15.16.060. - Section 108.4 amended—Violations.**

Delete *Section 108.4* of the 2018 International Plumbing Code in its entirety and replace with the following:

108.4 Violations. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in [section 1.28.010](#).

- **Sec. 15.16.070. - Section 108 amended—Stop work orders.**

The last sentence of *Section 108* of the 2018 International Plumbing Code is amended to read as follows:

Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalty provided in [section 1.28.010](#).

- **Sec. 15.16.080. - Section 305.6.1 amended—Sewer depth.**

The number "36" is inserted in two locations so *Section 305.6.1* of the 2012 International Plumbing Code will read as follows:

305.6.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 36 inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 36 inches below grade.

- **Sec.15.16.081.-Section 312.3 is Amended as follows:**

Section 312.3 Drainage and vent air test. Plastic piping shall be tested only to 5 PSI for DWV plastic piping

- **Sec. 15.16.090. - Section 904.1 amended—Roof extension.**

The number "12" is inserted so that *Section 904.1* of the 2018 International Plumbing Code will read as follows:

904.1 Roof Extension. All open vent pipes that extend through a roof shall be terminated at least 12 inches above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet above the roof. The anticipated snow depth is 6".

- **Sec. 15.16.100. - Backflow prevention assemblies.**

A new *Section 608.13* of the 2018 International Plumbing Code is added, to read as follows:

608.13 Backflow Prevention Assemblies. The premise owner or responsible person shall have the backflow prevention assembly tested by a certified backflow assembly tester at the time of installation, repair, or relocation.

- **Sec. 15.16.110 - Food waste grinders.**

Section 1003.3.2 of the 2018 International Plumbing Code is amended to read as follows:

1003.3.2 Food Waste Grinders. Unless specifically required or permitted by the code official, no food waste grinder or dishwasher shall be connected to or discharge into any grease trap. Where food waste grinders connect to grease interceptors, the grease interceptor shall be sized and rated for the discharge of the food waste grinder.

Exception: Special regulations by the Public Works Department may supersede this requirement.

- **Sec. 15.16.120. - Copies available.**

At least one copy of the 2018 International Plumbing Code, as adopted and amended, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. The code is also available on line at the following link <https://codes.iccsafe.org/public/collections/1-Codes>

- **Sec. 15.16.130. - Violations and penalties.**

It is unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any plumbing or cause or permit such work to be done, in violation of the provisions of this chapter or the terms of the code adopted and incorporated in this chapter, or to otherwise violate or fail to comply with this chapter or such code. Any person convicted of a violation of any provision of this chapter or of the provisions of the code adopted and incorporated in this chapter shall be subject to the penalty provided in [section 1.28.010](#).

- **Chapter 15.08 – 2018 INTERNATIONAL MECHANICAL CODE⁽¹⁾**

- **Sec. 15.08.010. - Adoption.**

The International Mechanical Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The purpose and subject matter of the International Mechanical Code include minimum standards relating to the mechanical installations in or in connection with the construction, alteration and repair of new and existing structures including design, construction, installation, quality of materials, locations, operation, and maintenance or use of heating, ventilation, cooling refrigeration systems, incinerators and other miscellaneous heat-producing appliances.

- **Sec. 15.08.020. - Section 101.1 amended—Title.**

Section 101.1 of the 2018 International Mechanical Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Mechanical Code of the City of Louisville, hereinafter referred to as this code.

- **Sec. 15.08.030. - Section 106.5.2 amended—Fee schedule.**

Section 106.5.2 of the 2018 International Mechanical Code is amended to read as follows:

106.5.2 Fee Schedule. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid in accordance with a fee schedule adopted by resolution of the City Council from time to time.

- **Sec. 15.08.040. - Section 106.5.3 amended—Refunds.**

Section 106.5.3 of the 2018 International Mechanical Code is amended to read as follows:

106.5.3 Refunds. The building official is authorized to establish a refund policy.

- **Sec. 15.08.070. - Section 901 amended.**

Section 901 of the 2018 International Mechanical Code is amended to add the following new subsection:

Section 901.5. Solid Fuel-Burning Equipment. No permit shall be issued for the installation of a solid-fuel-burning fireplace stove, fireplace insert or wood stove appliance unless the appliance fully conforms with the requirements for emission testing, certification and labeling promulgated pursuant to C.R.S. Title 25, [Article 7](#) and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations or any other clean burning device that is approved by the Air Quality Control Commission Regulations. All such appliances to be installed must be certified by the Air Quality Control Commission to meet the emissions standards set forth in Section IV of Regulation No. 4 of Volume 1 of the state air quality control commission as EPA Phase II or Colorado Phase III solid-fuel-burning devices.

- **Sec. 15.08.080. - Copies available.**

At least one copy of the 2018 International Mechanical Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. There are also electronic copies available on line at the following link <https://codes.iccsafe.org/public/collections/I-Codes>

DRAFT

- **Chapter 15.10 - 2018 INTERNATIONAL FUEL GAS CODE⁽¹⁾**

- **Sec. 15.10.010. - Adoption.**

The International Fuel Gas Code, 2018 edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The purpose and subject matter of the International Fuel Gas Code include minimum standards relating to the mechanical installations in or in connection with the construction, alteration and repair of new and existing structures including design, construction, installation, quality of materials, locations, operation, and maintenance or use of fuel-gas piping systems, fuel-gas utilization equipment and related accessories.

- **Sec. 15.10.020. - Section 101.1 amended—Title.**

Section 101.1 of the 2018 International Fuel Gas Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Fuel Gas Code of the City of Louisville, hereinafter referred to as this code.

- **Sec. 15.10.030. - Section 106.5.2 amended—Fee schedule.**

Section 106.5.2 of the 2018 International Fuel Gas Code is amended to read as follows:

106.5.2 Fee schedule. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid in accordance with a fee schedule adopted by resolution of the City Council from time to time.

- **Sec. 15.10.040. - Section 108.5.3 amended—Refunds.**

Section 108.5.3 of the 2018 International Fuel Gas Code is amended to read as follows:

108.5.3 Refunds. The Building Official is authorized to establish a refund policy.

- **Sec. 15.10.100. - Copies available.**

At least one copy of this Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 8:00 a.m. and 4 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. There is a free electronic copy online at <https://codes.iccsafe.org/public/collections/1-Codes>

- **Chapter 15.19 - 2018 International Existing Building Code**

- **Sec. 15.18.010. - Adoption.**

The International Existing Building Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The subject matter of the International Existing Building Code is regulate and govern existing buildings and installation of electrical, plumbing, mechanical, lighting, energy conservation systems and power systems in the City of Louisville, and providing for the issuance of permits and collection of fees therefor.

- **Sec. 15.18.020. - Section 101.1—Title.**

Section 101.1 of the 2018 International Existing Building Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the 2018 Existing Building Code of the City of Louisville, hereinafter referred to as "this code."

- **Sec. 15.18.30. - Copies available.**

At least one copy of this Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 8:00 a.m. and 4 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. There is a free electronic copy online at <https://codes.iccsafe.org/public/collections/1-Codes>

- **Chapter 15.18 - 2018 INTERNATIONAL ENERGY CONSERVATION CODE⁽¹⁾**

- **Sec. 15.18.010. - Adoption.**

The International Energy Conservation Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The subject matter of the International Energy Conservation Code is regulate and govern energy efficient building envelopes and installation of energy efficient mechanical, lighting and power systems in the City of Louisville, and providing for the issuance of permits and collection of fees therefor.

- **Sec. 15.18.020. - Section 101.1—Title.**

Section 101.1 of the 2018 International Energy Conservation Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the 2018 Energy Conservation Code of the City of Louisville, hereinafter referred to as "this code."

- **Sec.15.18.030.- Section C101.5 Compliance Materials has been amended to read as follows:**

C101.5 Compliance.

Residential Buildings shall meet the provisions of the 2018 IECC or the City of Louisville Prescriptive Energy Code: Residential and Commercial Provisions of the 2018 IECC as adopted by the City of Louisville Colorado requires a third party to complete all inspections and to complete a commissioning report before the final inspection if using the 2018 IECC . These additional costs will be the responsibility of the permit holder. Both the Commercial and Residential Prescriptive paths in the 2018 IECC are replaced with the City of Louisville’s Prescriptive Energy Code and will require inspections to be done by City Inspectors or their consultants at no extra cost to the permit holder.

- **Sec. 15.18.040.-C401.1 Scope has been rewritten as follows:**

C401.1 Scope.

The provisions in this chapter are applicable to commercial and residential buildings in lieu of Designs Standards and Third Party inspections that are Required by the 2018 IECC owners, builders and designers may have the option to solely use the City of Louisville Prescriptive Energy Code . The City of Louisville Prescriptive Energy Code and Design Criteria is as follows:

In Lieu of the 2018 IECC

City of Louisville Prescriptive Energy Code

- Both Residential and Commercial Heated Structures shall follow all of the following to be considered under the Prescriptive Energy Code. All other energy code options will need to be inspected and Certified before final inspection is done by a third party inspection group.
- **Insulation all Heated Structures (including core /shell)**
 - R-49 Ceiling
 - R-21 Exterior Walls
 - R-19 Basement Walls
 - R-38 Under Floors (with unconditioned space below)
 - R-10 Under Concrete Slabs
 - R-3 Hot Water Lines Insulated
- **Windows and Glazing U Factors**
 - U- .30 on Windows
 - U- .55 on Skylights
- **Electrical**
 - Structures shall be built to be Solar Ready
 - Timers on Bathroom Exhaust Residential
 - Commercial Buildings Need Light occupant sensors
 - Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage
 - 90% or more of all light fixtures shall contain high-efficiency lamps
- **Mechanical**
 - Residential Structures 90% Plus Furnaces 90% Plus Boilers
 - Commercial Structures 85% Plus RTU
 - A/C Units-14 SEER
 - Occupancy sensors on Thermostatic set back controls (Brings building to lower temp)
 - Manual J and D will be required on residential additions greater than 500 Sq. Ft.
- **Natural Lighting**
 - Commercial Buildings need 3% of Roof to be skylights unless used for solar panels
 - Commercial glazing shall not be less than
- **Air Changes**
 - All New Residential shall be tested to verify air leakage rate does not exceed 3 air changes an hour and shall have whole house mechanical ventilation with section M1505.4.

DESIGN CRITERIA

Snow Load:	30 lbs/sf
Wind speed:	115 mph for 3 second gust 100 mph fastest mile <i>D3161 test with Class F Application</i>
Wind Exposure:	"C" until proven otherwise for greater restrictions
Seismic Zone:	B
Frost line depth:	36" below finished grade (LMC 15.05.050)
Weathering:	Severe – Climate Zone 5B
Termite:	Slight
Decay:	Slight
Winter Design Temp:	1 degree
Anticipated Snow:	6"
Ice & Water Shield:	Required on ALL Shingled Roofs – Eaves only <i>Must extend from the lowest edges to a point at least 24" inside the exterior wall line of the building.</i>
Drip Edge:	Required on both eaves and rakes of roof.
Air Freezing Index:	<1000
Mean Annual Temp:	47 degrees
Elevation:	5,337 feet above sea level.
Current code:	2018 IBC, IRC, IFC, IPC, IFGC, IMC, IECC, IEBC, IPMC, 1997 Uniform Code for the Abatement of Dangerous Building Code and NEC 2017

Remember:

Sump Pumps:	Can NOT drain into sanitary or storm sewer. Daylight into lawn away from foundation. Perimeter foundation systems go to sump pit then sump pump and sump pump to lawn.
Drainage from House:	Slope at least 6" in the 1 st 10 feet.
Retaining Walls:	Less than 48" from the bottom of the footing to top the retaining wall with no surcharge does not require a permit. Over 48" from the bottom of the footing to top the retaining wall, or <u>ANY</u> wall with surcharge, requires stamped engineered plans.
Backflow Preventer:	Required on residential irrigation systems. (See cross connection control manual)
Hot Water Heaters:	Require expansion tanks for ALL hot water heaters. Required to have a drain pan if placed on a wood floor.

www.iccsafe.org for International codes, books, licensing etc.

www.energycodes.gov/rescheck or just google rescheck

www.epa.gov for fireplaces look under woodstoves or cdphe.state.co.us

- **Sec. 15.18.100. - Copies available.**

At least one copy of this Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 8:00 a.m. and 4 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. A free electronic copy can be obtained online at <https://codes.iccsafe.org/public/collections/I-Codes>

DRAFT

- **Chapter 15.12 - 2018 INTERNATIONAL FIRE CODE⁽¹⁾**

- **Sec. 15.12.010. - Adoption.**

The International Fire Code, 2018 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of this Code. The purpose and subject matter of the International Fire Code include minimum standards relating to the storage, handling, and use of hazardous substances, materials and devices, and providing greater safety and protection to the public from conditions hazardous to life or property in the occupancy of buildings or premises.

- **Sec. 15.12.020. - Section 101.1 amended—Title.**

Section 101.1 of the 2018 International Fire Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Fire Code of the City of Louisville, hereinafter referred to as this code.

- **Sec. 15.12.040. - Section 110 amended—Violations.**

Section 110 of the 2018 International Fire Code is deleted in its entirety and replaced with the following:

109. Violations. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in [section 1.28.010](#) of the Code of Ordinances City of Louisville Colorado.

- **Sec. 15.12.060. - Section 104.1 amended—General.**

Section 104.1 of the 2018 International Fire Code is amended to read as follows:

104.1 General. The Fire Code Official known as the Fire Marshall or Chief Building Official is hereby authorized to enforce the provisions of this code. The fire code official shall have the authority to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code. Such policies, procedures, rules and regulations shall not have the effect of waiving requirements specifically provided for in this code.

- **Sec. 15.12.064.- Section 308.1.6.3 amended –Sky lanterns**

Section 308.1.6.3- Sky lanterns are prohibited because of climatic conditions

- **Sec. 15.12.065. - Section 315.3.1 amended—Ceiling Clearance.**

Section 315.3.1 Ceiling clearance of the 2018 International Fire Code has been amended to read as follows:

Storage shall be maintained 2 feet (610 mm) or more below the ceiling in non-sprinklered areas of buildings or not less than 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings. In areas with storage there shall be a redline added at 18” or 24” below the ceiling with language above the redline stating, “NO STORAGE ABOVE THIS LINE”

- **Sec. 15.12.070. - Section 503.2.3 amended—Surface.**

Section 503.2.3 of the 2018 International Fire Code is amended to read as follows:

Section 503.2.3. Surface. Fire apparatus access roads shall be designed and constructed of hard surface, i.e. asphalt or concrete, to withstand the weight of fire apparatus and such surfaces must be able to support the weight of the heaviest fire apparatus of the fire district serving the property. The grade of a fire apparatus access road shall not exceed seven percent. During the construction of a land use development project, the property owner or contractor may apply for a waiver of the requirement to construct a hard surface fire apparatus access road. The waiver request shall include an engineered plan for the alternative construction of the access road and a plan for the continued maintenance of the access road during the period of project construction. Upon completion of the project and prior to the issuance of a certificate of occupancy, any fire apparatus access road shall be constructed of permanent hard surface.

Sec. 15.12.080. - Section 1010.1.9.4 Locks and latches.

1010.1.9.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

- 1. Places of detention or restraint.**
- 2. In buildings in occupancy Groups B, F, M and S, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:**
 - 2.1. The locking device is readily distinguishable as locked.**
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.**
 - 2.3. The use of the key-operated locking device is revocable by the fire code official for due cause.**
- 3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.**
- 4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.**

5. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

6. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.

- **Sec. 15.12.090. - Appendices adopted with the 2018 International Fire Code are as follow and shall be used as needed by the City and Fire District to meet the intent of the International Fire Code:**
 - **Appendix B Fire-Flow Requirements for Buildings**
 - **Appendix C Fire Hydrant Locations and Distribution**
 - **Appendix D Fire Apparatus Access Roads**
 - **Appendix E Hazard Categories**
 - **Appendix I Noncompliant Conditions**

- **Sec. 15.12.100. - Copies available.**

At least one copy of the 2018 International Fire Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 8:00 a.m. and 4 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. There is a free electronic copy online at <https://codes.iccsafe.org/public/collections/I-Codes>

- **Sec. 15.12.110. - Fire lane requirements.**

Refer to Appendix D of the International Fire Code, as amended.

- A. In addition to the requirements of Appendix D, no platted street in multifamily, industrial, business or commercial development ending in a cul-de-sac or some other design shall exceed 300 feet in length without providing a secondary fire lane access.
- B. In addition to the requirements of Appendix D, no platted street in a single-family area ending in a cul-de-sac or some other design shall exceed 500 feet in length without providing a secondary fire lane access.
- C. In addition to the requirements of Appendix D, single-family residences which are located more than 150 feet from the closest public street right-of-way shall provide a fire lane from the street to the residence.

- **Sec. 15.12.120. - Fire lane specifications.**

Refer to Appendix D of the International Fire Code, as amended from time to time. In addition to the requirements of Appendix D, an emergency access fire lane which is required to be installed into an area as a secondary access must be as remote as possible from the main access and provide access to all parts of the development. No emergency access fire lane shall exceed 300 feet in length.

- **Sec. 15.12.130. - Placement of fire hydrants.**

A. Fire hydrants shall be placed at each street intersection and on each side of any divided highway, roadway or street, wherever possible.

B. In a residential area, there shall be no more than 500 feet of vehicle travel distance between hydrants.

No residential unit shall be more than 250 feet of vehicle travel distance from the nearest hydrant.

C. In multifamily, industrial, business or commercial areas, there shall be no more than 300 feet of vehicle travel distance between hydrants. No building shall be more than 150 feet of travel distance from the nearest hydrant.

D. All water mains serving two or more fire hydrants or two or more fire service water lines shall have a looped water distribution system with approved sectional valves being provided.

E. The barrel of a fire hydrant shall be set perpendicular to the ground or the designed final grade with the lowest discharge outlet 18 inches above grade.

F. A minimum of three feet of clearance space shall be maintained around the circumference of a fire hydrant except as otherwise required or approved by the city.

G. The minimum required residual pressure for a water supply to any given area shall be 20 psi. In the event that a minimum water pressure of 20 psi cannot be obtained in any given area, large water mains shall be installed with closer than the required minimum spacing of fire hydrants to increase flow.

- **Sec. 15.12.140. - Key boxes required.**

Section 506.1 of the 2018 International Fire Code is amended by the addition of a new final sentence reading as follows: All new commercial construction requires a key box to be installed.

- **Sec. 15.12.150. - Automatic fire sprinklers.**

Section 903.2.1 of the 2018 International Fire Code is amended as follows:

All New Commercial Structures are required to have a Fire Suppression system designed for the Occupancy Group of that building. Unless approved by both the CBO and Fire Marshal and must meet the specific criteria of the approved policy by both the Fire District and Building Department.

Exceptions: U Occupancies are not required to be fire suppression systems unless they exceed 5,000 sq. ft.

These changes are only specific to new construction.

- **Sec. 15.12.160. - Standards of reference.**

Standards of reference for the 2018 International Fire Code are:

The 2018 Edition of the ICC International Wild land-Urban Interface Code.

The most current Edition of the NFPA Life Safety Code.

The most current Edition of the NFPA Codes and Standards.

- **Chapter 15.22 - 1997 Uniform Code for the Abatement of Dangerous Buildings**

- **Sec. 15.22.010. - Adoption.**

The **1997 Uniform Code for the Abatement of Dangerous Buildings** Edition, published by the International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001 , is hereby adopted by reference thereto and incorporated into and made a part of the city Code. The subject matter of the **1997 Uniform Code for the Abatement of Dangerous Buildings** is to provide the building official with proper legal steps in abating dilapidated, defective buildings which endanger life, health, property and public safety within concepts of fair play and justice in the City of Louisville, and providing for the issuance of permits and collection of fees therefor.

- **Sec. 15.22.020. - Section 101—Title.**

Section 101 of the **1997 Uniform Code for the Abatement of Dangerous Buildings** Code is amended to insert "the City of Louisville" so the section will read:

101 Title. These regulations shall be known as the **1997 Uniform Code for the Abatement of Dangerous Buildings** of the City of Louisville, and maybe cited as such, and will be referred to herein as the City of Louisville's **1997 Uniform Code for the Abatement of Dangerous Buildings**.

- **Sec. 15.22.100. - Copies available.**

At least one copy of this Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 8:00 a.m. and 4 p.m., Monday through Friday, holidays excepted. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price.

City of Louisville Prescriptive Energy Code

In Lieu of the 2018 IECC

- Residential and Commercial Heated Structures shall follow all of the following to be considered under the Prescriptive Energy Code. All other energy code options will need to be inspected and Certified before final inspection is done by a third party inspection group.
- Insulation all Heated Structures (including core /shell)
 - R-49 Ceiling
 - R-21 Exterior Walls
 - R-19 Basement Walls
 - R-38 Under Floors (with unconditioned space below)
 - R-10 Under Concrete Slabs
 - R-3 Hot Water Lines Insulated
- Windows and Glazing U Factors
 - U- .30 on Windows
 - U- .55 on Skylights
- Electrical
 - Structures shall be built to be Solar Ready
 - Timers on Bathroom Exhaust Residential
 - Commercial Buildings Need Light occupant sensors
 - Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage
 - 90% or more of all light fixtures shall contain high-efficiency lamps
- Mechanical
 - Residential Structures 90% Plus Furnaces 90% Plus Boilers
 - Commercial Structures 85% Plus RTU
 - A/C Units-14 SEER
 - Occupancy sensors on Thermostatic set back controls (Brings building to lower temp)
 - Manual J and D will be required on residential additions greater than 500 Sq. Ft.
- Natural Lighting
 - Commercial Buildings need 3% of Roof to be skylights unless used for solar panels
 - Commercial glazing shall not be less than
- Air Changes
 - All New Residential shall be tested to verify air leakage rate does not exceed 3 air changes an hour and shall have whole house mechanical ventilation with section M1505.4.

Department of Planning and Building Safety

749 Main Street • Louisville CO 80027 • 303.335.4584 • www.louisvilleco.gov

**DESIGN CRITERIA/PRESCRIPTIVE ENERGY CODE
Based on 2018 Codes Revised 05/2018**

**City of Louisville Prescriptive Energy Code
In Lieu of the 2018 IECC**

- Both Residential and Commercial Heated Structures shall follow all of the following to be considered under the Prescriptive Energy Code. All other energy code options will need to be inspected and Certified before final inspection is done by a third party inspection group.
- **Insulation all Heated Structures (including core /shell)**
 - R-49 Ceiling
 - R-21 Exterior Walls
 - R-19 Basement Walls
 - R-38 Under Floors (with unconditioned space below)
 - R-10 Under Concrete Slabs
 - R-3 Hot Water Lines Insulated
- **Windows and Glazing U Factors**
 - U- .30 on Windows
 - U- .55 on Skylights
- **Electrical**
 - Structures shall be built to be Solar Ready
 - Timers on Bathroom Exhaust Residential
 - Commercial Buildings Need Light occupant sensors
 - Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage
 - 90% or more of all light fixtures shall contain high-efficiency lamps
- **Mechanical**
 - New Residential 90% Plus Furnaces 90% Plus Boilers
 - All Commercial Structures 85% Plus RTU
 - A/C Units-14 SEER
 - On Commercial Non-Residential Buildings Occupancy sensors are required on Thermostatic set back controls (Brings building to lower temp when not occupied)
 - Manual J and D will be required on new residential and additions greater than 500 Sq. Ft.

- **Natural Lighting**
 - Commercial Buildings need 3% of Roof to be skylights unless used for solar panels
 - Commercial glazing shall not be less than
- **Air Changes**
 - All New Residential shall be tested to verify air leakage rate does not exceed 3 air changes an hour and shall have whole house mechanical ventilation with section M1505.4.

DESIGN CRITERIA

Snow Load:	30 lbs/sf
Wind speed:	115 mph for 3 second gust 100 mph fastest mile <i>D3161 test with Class F Application</i>
Wind Exposure:	“C” until proven otherwise for greater restrictions
Seismic Zone:	B
Frost line depth:	36” below finished grade (LMC 15.05.050)
Weathering:	Severe – Climate Zone 5B
Termite:	Slight
Decay:	Slight
Winter Design Temp:	1 degree
Anticipated Snow:	6”
Ice & Water Shield:	Required on ALL Shingled Roofs – Eaves only <i>Must extend from the lowest edges to a point at least 24” inside the exterior wall line of the building.</i>
Solar Design:	High Temp =2% AVG. 34 Deg C Extreme Min= -23 Deg C
Drip Edge:	Required on both eaves and rakes of roof.
Air Freezing Index:	<1000
Mean Annual Temp:	47 degrees
Elevation:	5,337 feet above sea level.
Current code:	2018 IBC, IRC, IFC, IPC, IFGC, IMC, IECC, IEBC, IPMC, 1997 Uniform Code for the Abatement of Dangerous Building Code and NEC 2017

Remember:

Sump Pumps:	Can NOT drain into sanitary or storm sewer. Daylight into lawn away from foundation. Perimeter foundation systems go to sump pit then sump pump and sump pump to lawn.
Drainage from House:	Slope at least 6” in the 1 st 10 feet.
Retaining Walls:	Less than 48” from the bottom of the footing to top the retaining wall with no surcharge does not require a permit. Over 48” from the bottom of the footing to top the retaining wall, or <u>ANY</u> wall with surcharge, requires stamped engineered plans.
Backflow Preventer:	Required on residential irrigation systems. (See cross connection control manual)
Hot Water Heaters:	Require expansion tanks for ALL hot water heaters. Required to have a drain pan if placed on a wood floor.