CITY OF FORISTELL

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To Whom It May Concern:

This is to certify that the following Ordinance No. 901, an Ordinance Adopting the 2021 International Building Code as adopted by the Board of Alderman and signed by the Mayor on March 4, 2024 is a full, true, and complete copy of the original as recorded in the office of the City Clerk of the City of Foristell, Missouri.

IN WITNESS WHEREOF, I hereunto set my hand and affix the seal of said City of Foristell, Missouri, this 5th day of March 2024.

Sandra L. Stokes, City Clerk

City of Foristell
March 4, 2024

ADOPTION OF THE 2021 INTERNATIONAL BUILDING CODE

ORDINANCE NO. 901

PASSED BY THE BOARD OF ALDERMAN AND SIGNED BY THE MAYOR ON March 4, 2024

Bill No. 03-24 **Ordinance No.**

AN ORDINANCE AMENDING SECTION 500.040 AND 500.050 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL BUILDING CODE; AMENDING SECTION 500.070 AND 500.080 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO-FAMILY DWELLINGS; AMENDING SECTION 500.110 AND 500.120 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL PROPERTY MAINTENANCE CODE; AMENDING SECTION 500.130 AND 500.140 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL EXISTING BUILDING CODE; AMENDING SECTION 500.150 AND 500.160 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL MECHANICAL CODE; AMENDING SECTION 500.170 AND 500.180 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL FUEL GAS CODE; AMENDING SECTION 500.190 AND 500.200 TO ADOPT THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE; AMENDING SECTION 500.240 AND 500.250 TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL PLUMBING CODE; AND AMENDING SECTIONS 500.276 AND 500.277 THAT ADOPT THE 2021 INTERNATIONAL SWIMMING POOL AND SPA CODE.

Be It Ordained by the Board of Aldermen of the City of Foristell, Missouri, as follows:

SECTION 1: Sections 500.040 and 500.050 of Chapter 500, Article II, of the Code of Ordinances of the City of Foristell are hereby amended by repealing them in their entirety and replaced with new Sections 500.040 and 500.050 to read follows:

~~**Section 500.040 International Building Code Adapted By Reference.**~~

~~A. The 2015 Edition of the International Building Code, including Appendices C, E, F, G, H, I and J, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Building Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Building Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections 500.040 and 500.050 in the Building Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections 500.040 and~~

~~500.050. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.040 and 500.050.~~

~~D. One (1) copy of Sections 500.040 and 500.050, the 2015 Edition of the International Building Code, and the proposed amendments have been on file~~

NOTE: Struck through text is deleted. Underlined text is inserted.

in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.040 and 500.050.

Section 500.050 Amendments - Exemptions.

A. The code adopted by Section **500.040** of this Chapter is hereby amended as follows:

1. Section 102.4, Referenced codes and standards, is deleted and the following is inserted in lieu thereof, to read as follows:

   102.4 Referenced codes and Standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply. If a referenced standard is in conflict with a code independently and specifically adopted by the City, the standard in the code specifically adopted by the City shall prevail over the referenced standard.

2. Section 103 is deleted.

3. Section 105.2, Work exempt from permit, shall have the following sections amended.

   1. One story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided that the floor area does not exceed one hundred forty four (144) square feet.

   2. Fences not over six. feet (1,820 mm) high.

4. Section 105.5 is deleted.

5. Section 114.4, Violation penalties, is deleted.

6. Section 310.1, Residential Group R, shall be amended to include the following use under the R 3 Residential Occupancies heading: bed and breakfast.

7. Section 310.2, Definitions, shall be amended to include the following definition:

   BED AND BREAKFAST. A building or structure arranged for lodging of not more than six. (6) lodgers or boarders (primarily transient in nature) for compensation, with or without meals, and occupied as a single family dwelling unit.

8. Section 1109.5.1., Minimum number, shall be amended to read as follows: No fewer than one drinking fountain shall comply with the requirements for people using a wheelchair.

   Exception: Occupancies 1tvith an occupant load of less than fifty (50) people shall be permitted to provide an approved bottled water dispenser in lieu of the required drinking fountain.

9. Section 2902.2, Separate facilities, shall have the following exception amended to read as follows:

   2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of thirty (30) or less.

10. Section 2902.4, Required public toilet facilities, shall be amended to read as follows: Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. Employees shall be provided with

~~toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.~~

Section 500.040 International Building Code Adopted By Reference.

A. The 2021 Edition of the International Building Code, including Appendices C, E, F, G and H except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Building Code of the City and made a part of this Section as if fully set forth herein.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Building Code, it shall be deemed to mean the City.

C. Nothing in Sections 500.040 and 500.050 in the Building Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections 500.040 and 500.050. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.040 and 500.050.

D. One (1) copy of Sections 500.040 and 500.050, the 2021 Edition of the International Building Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.040 and 500.050.

Section 500.050 Amendments -Exemptions.

A. The code adopted by Section 500.040 of this Chapter is hereby amended as follows:

1. Section 102.4 Referenced codes and standards is deleted and the following is inserted in lieu thereof, to read as follows:

Section 102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply. If a referenced standard is in conflict with a code independently and specifically adopted by the City, the standard in the code specifically adopted by the City shall prevail over the referenced standard.

2. Section 103 is deleted.

3. Section 105.2, Work exempt from permit, shall have the following Sections amended.

    1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 144 square feet.
    2. Fences not over 6 feet (1820 mm) high.

4. Section 105.5 is deleted.

5. Section 114.4, Violation penalties, is deleted.

6. Section 310.1 Residential Group R shall be amended to include the following use under the R-3 Residential Occupancies heading.

Bed and Breakfast

7. Section 310.2, Definitions, shall be amended to include the following definition:

Bed and Breakfast. A building or structure arranged for lodging of not more than six (6) lodgers or boarders (primarily transient in nature) for compensation, with or without meals, and occupied as a single-family dwelling unit.

8. Section 1110.5.1., Minimum number, shall be amended to read as follows:

No fewer than one drinking fountain shall comply with the requirements for people using a wheelchair.

Exception: Occupancies with an occupant load of less than 50 people shall be permitted to provide an approved bottled water dispenser in lieu of the required drinking fountain.

9. Section 2902.2, Separate facilities, shall have the following exception {2) amended to read as follows:

(2) Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 30 or fewer.

10. Section 2902.3, Required public toilet facilities, shall be amended to read as follows:

Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 2902 for all users.

SECTION 2: Sections 500.070 and 500.080 of Chapter 500, Article III, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.070 and 500.080 to read follows:

~~**Section 500.070. International Residential Code for One and Two Family Dwellings Adopted By Reference**~~

~~A. The 2015 International Residential Code for One and Two Family Dwellings, including Appendices A, B, C, D, G, H, J, K, N, and P, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the One and Two Family Dwelling Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Residential Code for One and Two Family Dwellings, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.070** and **500.080** or in the One and Two Family Dwelling Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Section 500.070 and 500.080. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.070 and 500.080.~~

~~D. One (1) copy of Sections **500.070** and **500.080,** the 2015 Edition of the International Residential Code for One and Two Family Dwellings and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.070** and **500.080.**~~

~~**Section 500.080 Amendments.**~~

~~A. The code adopted by Section 500.070 of this Chapter is hereby amended as follows:~~

~~1. Section R102.4 Referenced codes and standards is amended to read as follows: *Section R102.4 Referenced codes and standards.* If a referenced standard is in conflict with a code independently and specifically adopted by the City, the standard in the code specifically adopted by the City shall prevail over the referenced standard.~~

NOTE: Struck through text is deleted. Underlined text is inserted.

2. Section R103 Department of Building safety is deleted.

3. Section R105.2 Work exempt from permit, the following Sections are amended to read as follows:

Section R1()5.2 Work exempt from permit.

Building:

1. One story detached accessory structures, provided the floor area does not exceed 144 square feet, or decks/porches provided the floor area does not exceed 25 square feet.

3. Retaining walls that are not over 4 feet (1219 mm) in height measured from finished grade to the top of the wall, unless supporting a surcharge.

5. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade and not over any basement or story below.

8. Swings and other playground equipment accessory to a one- or two-family dwelling.

4. Section R106.3.1 Approval of construction documents, is amended to read as follows:

R106.3 Approval of construction documents. Where the *building official* issues a *permit,* the *construction documents* shall be *approved* in writing or by a stamp that states "REVIEWED FOR CODE COMPLIANCE." One set of *construction documents* so reviewed shall be retained by the *building official.* The other set may be kept at the site of work or made available at the time of inspection and shall be open to inspection by the *building official* or a duly authorized representative.

5. Section R112 Board of Appeals is deleted.

6. Section R113.4 Violation penalties is deleted.

7. Section R202 Definitions, the definitions of "Rough In" and "Story Above Grade Plane" are amended to read as follows:

ROUGH IN. The installation of all parts of the plumbing system that must be completed prior to the installation of fixtures. This includes DWV, water supply and built in fixture supports. In unfinished areas, rough ins will require waste lines only.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above *grade plane,* or in which the finished surface of the floor next above is either of the following:

1. More than 6 feet (1829 mm) *above grade plane.*

2. More than 12 feet (3658 mm) above the finished ground level at any point.

Exception: When a crawl space or supporting wall is below a walkout basement, that supporting wall is to be engineered but will not be considered a story.

8. Table R301.2(1) Climatic and Geographic Design Criteria, the following values shall be entered into the table and footnotes b and h to the table are amended as follows:

Ultimate Wind Speed: 115 (51)

Ground Snow Load: 20 psf

Wind Design Speed: 90 mph

Wind Topographical Effect: No

Seismic Design Category: C (unless indicated otherwise in a soils evaluation report from an approved geotechnical agency)

~~Weathering: Severe~~

~~Frost Line Depth: 30 inches~~

~~Termite: Heavy to Severe~~

~~Winter Design Temp: 6~~

~~Ice Barrier Underlayment Required: No~~

~~Flood Hazards: (a) 4 9 1977, (b) 8 2 1996~~

~~Air Freezing Index.: 1000~~

~~Special Wind Region: No~~

~~Wind-borne Debris Zone: No~~

~~Mean Annual Temp: 55.2~~

~~Foot Notes b and h are amended to read as follows:~~

~~b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The *jurisdiction* shall fill in the frost line depth column with 30", the minimum depth of footing below finish *grade*.~~

~~h. The jurisdiction shall fill in this part of the table with "No."~~

~~9. Section R302.1 Exterior walls, the following exceptions are added to the list of exceptions to read as follows:~~

~~6. Cantilevered manufactured fireplaces.~~

~~7. Roof eave overhangs.~~

~~8. Uncovered decks.~~

~~10. Section R302.2 Townhouses, is amended to read as follows:~~

~~**R302.2 Townhouses.** Common walls separating *townhouses* shall be assigned a fire resistance rating in accordance with Section R302.2, Item 1 or 2. The common wall shared by two *townhouses* shall be constructed without plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.~~

~~1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire resistance rated wall assembly tested in accordance with ASTM E 119 or UL 263.~~

~~2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire resistance rated wall assembly tested in accordance with ASTM E 119 or UL 263.~~

~~Each townhouse shall be considered a separate building and shall be separated by fire resistance rated wall assemblies meeting the requirements of Section R302.1 as amended for exterior walls.~~

~~Each *townhouse* may be separated with two one hour fire resistant exterior walls or a common two hour fire resistant rated wall. The two hour fire resistant common wall shall not be used for any plumbing or mechanical equipment, including ducts or vents. Electrical outlet box penetrations of the common two hour fire resistant assembly shall be installed in accordance with Section R302.1. A parapet is required above the two hour common wall, or two one hour fire resistant exterior walls constructed in accordance with Section R302.2.3.~~

11. Section R302.5.2 Duct penetration, is amended to read as follows:

R302.5.2 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 28 gauge (0.18 mm) sheet steel or other approved material and shall not have openings into the garage.

12. Section R302.11 fireblocking required, is amended by amending section 7 to read as follows:

7. Open web or perforated truss floor joists must be covered by one sheet of 5/8 inch type "X" fire rated gypsum board (or equivalent) or a NFPA 13D or a NFPA 13R sprinkler system must be installed in the basement.

13. Section R303.1 Habitable rooms, the following exception is added to the list of exceptions to read as follows:

4. Unfinished basements and utility rooms require natural ventilation (net-openable area) at the ratio of 1 % of the square footage floor area served. Mechanical ventilation with outdoor air (not recirculated air) in accordance with the Mechanical Code may be substituted at a rate of .05 cfm/sq. ft. of area.

14. Section R303.3 Bathrooms, the exception is amended to read as follows:

Exception: The glazed areas shall not be required where artificial light and a local exhaust system are provided. The minimum local exhaust rates shall be determined in accordance with Section M1507. Exhaust air from the space shall be exhausted directly to the outdoors or to an attic gable vent or ventilated soffit.

15. Section R303.4 Mechanical ventilation, is amended to read as follows:

Where the air infiltration rate of a *dwelling unit* is 3 air changes per hour or less where tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole house mechanical ventilation in accordance with Section M1507.3.

16. Section R303.5.2 Exhaust openings, is amended to read as follows:

Exhaust air shall not be directed below 6 feet and 8 inches onto public walkways.

17. Section R303.8 Exterior stairway illumination, is amended by adding an exception to read as follows:

Exception: Illumination is not required on residential decks that are not part of the required of egress path.

18. Section R306.5 Hose bibb, the following Section is added to read as follows:

Section R306.5 Hose Bibb.

Every dwelling shall provide one outside frost proof hose bibb. The hose bibb shall be protected from backflow per Section P2902.

19. Section R306.6 Floor Drain, the following Section is added to read as follows:

Section R306.6 Floor Drain. All basements shall have a floor drain within 20 feet of the heating/cooling system(s) and water heaters. The floor drain shall comply with Chapter 27 of the International Residential Code for One- and Two-Family Dwellings.

20. Section R309.5 Fire sprinklers, is amended to read as follows:

R309.5 Fire sprinklers. Private garages shall be protected by fire sprinklers where the garage wall has been designed based on Table 302.1(2), Footnote a, and the homeowner has opted to purchase a fire sprinkler system for their residence, as per Missouri

Revised Statutes 67.281. Sprinklers in garages shall be connected to an automatic sprinkler system that complies with Section P2904. Garage sprinklers shall be residential sprinklers or quick response sprinklers, designed to provide a density of 0.05 gpm/ft². Garage doors shall not be considered obstructions with respect to sprinkler placement.

21. Section R310.1 Emergency escape and rescue opening required, is amended by amending the exceptions to read as follows:

Exceptions:

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58m²)
2. Habitable spaces in basements, in existing dwelling units, which are not used for sleeping rooms, are not required to have emergency escape and rescue openings when the basement is equipped with a NFPA 13D or NFPA 13R sprinkler system.

22. Section R311.3 Floors and landings at exterior doors, is amended to read as follows:

R311.3 Floors and landings at exterior doors. There shall be a landing or floor at each required egress exterior door. The width of each landing shall not be less than the door served. Every landing shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed 1/4 unit vertical in 12 units horizontal (2 percent).

Exceptions:

1. Exterior balconies less than 60 square feet (5.6 m2) and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.
2. Non-required means of egress doors with no landing, for future deck/balcony shall be protected with a mechanical fastened 36" tall guard rail if/when the door sill height exceeds (23¼") above grade.

23. Section R311.3.2 Floor elevations for other exterior doors, is amended by amending the exceptions to read as follows:

Exceptions:

1. A top landing is not required where a stairway of three or fewer risers is located on the exterior side of the door, provided the door does not swing over the stairway.
2. Doors, with no landing, for future deck/balcony shall be protected by an approved guard if the door threshold is more than 3 risers (23¼") above grade.
3. Exterior balconies less than 60 square feet and only accessible from a door are permitted to have a landing less than 36 inches measured in the path of travel.

24. Section R403.1.4.1 Frost protection, is amended by amending the exceptions to read as follows:

Exceptions:

1. Freestanding accessory structures with an area not exceeding 144 square feet and an eave height of 10 feet or less shall not be required to be protected.
2. Decks not supported by a dwelling, not exceeding 144 square feet, need not be provided with footings that extend below the frost line. Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

25. Section R403.1.7 Footings on or adjacent to slopes, is amended to read as follows:

~~The placement of buildings and structures on or adjacent to slopes steeper than 1 unit vertical in 3 units horizontal (33.3 percent slope) shall conform to Sections R403.1.7.1 through R403.1.7.4 or plans as signed and sealed by a registered structural engineer.~~

~~26. Section R405.1 Concrete and masonry foundations, is amended by amending the exceptions to read as follows:~~

~~**Exceptions:**~~

~~1. A drainage system is not required where the foundation is installed on well drained ground or sand gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R405.1.~~

~~2. Drains provided as detailed in Section R405.1.2 are approved as an alternative method to meet the requirements of this section.~~

~~27. Section R405 Foundation Drainage, is amended to add five new subsections to read as follows:~~

~~**R405.1.2 Soil evaluations.** An evaluation of the soil from a geotechnical Engineer for the presence or absence of groundwater is required. The evaluation report shall be based on either a subsurface soil investigation or satisfactory data from adjacent areas together with an inspection of the excavation prior to pouring concrete.~~

~~**R405.1.2.1 Groundwater Present.** Provide drain tile, perforated pipe or other approved foundation drainage systems (such as water channel system) around perimeter of the outside of the foundation and inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.~~

~~**R405.1.2.2 No groundwater present.** Provide drain tile, perforated pipe or other approved foundation drainage systems (such as water channel system) around perimeter of the outside of the foundation or inside the foundation. Drain discharge shall be gravity to daylight or be connected to a basement floor sump pit/pump.~~

~~**R405.1.2.3 Filter membranes.** An approved filter membrane shall be placed over the top of the joints/pipe perforations. The tile/pipe shall be placed on 2 inches minimum of gravel or crushed stone and have 6 inches of minimum cover.~~

~~**R405.1.2.4 Drainage system.** A drainage system shall discharge by gravity to daylight or be connected to an approved sump (18" inches in diameter x 24" inches deep with fitted cover). A sump pump shall be provided if the basement is finished or partially finished with pump discharge by an approved method.~~

~~28. Table R502.2.2.1 Deck Ledger Connection to Band Joist, is amended to read as follows:~~

TABLE R507.2
DECK LEDGER CONNECTION TO BAND JOIST
(Deck Live Load = 40 psf, Deck Dead Load = 10 psf, Snow Load < 40 psf)

Joist Span	6'0 and Less	6'1" to 8'0"	8'1" to 10'0"	10'1" to 12'0"	12'1" to 14'0"	14'1" to 16'0"	16'1" to 18'0"
Connection Details	On Center Spacing of Fasteners						
½" diameter lag screw with ½" maximum sheathing	16	16	16	15	13	11	10
½" diameter bolt with ½" maximum sheathing	24	24	24	24	24	21	19
½" diameter bolt with 1" maximum sheathing	24	24	24	24	21	18	16

29. Section R905.2.8.2 Valleys, is amended to read as follows:

R905.2.8.2 Valleys. Valley linings shall be installed in accordance with the manufacturer's instructions before applying shingles. Valley linings of the following types shall be permitted:

1. For open valleys (valley lining exposed) lined with metal, the valley lining shall be not less than 24 inches (610 mm) wide and of any of the corrosion resistant metals in table R905.2.8.2.

2. For open valleys, valley lining of two plies of mineral surfaced roll roofing, complying with ASTM D 3909 or ASTM D 6380 Class M, shall be permitted. The bottom layer shall be 18 inches (457 mm) and the top layer not less than 36 inches (914 mm) wide.

3. For closed valleys (valley covered with shingles), valley lining of two ply of No.15 felt complying with ASTM D 226 Type I, ASTM D 4869 Type I, or ASTM D 6757, or valley lining as described in Item 1 and 2 shall be permitted. Self-adhering polymer modified bitumen underlayment complying with ASTM D 1970 shall be permitted in lieu of the lining material.

30. Section R905.2.8.5 Drip edge, is amended to read as follows:

R905.2.8.5 Drip Edge. A drip edge or equivalent shall be provided at eaves and rake edges of shingle roofs. Adjacent segments of drip edge shall be overlapped not less than 2 inches (51 mm). Drip edges shall extend not less than 1/4 inch (6.4 mm) below the roof sheathing and extend up back onto the roof deck not less than 2 inches (51 mm). Drip edges shall be mechanically fastened to the roof deck at not more than 12 inches (305 mm) o.c. with fasteners as specified in Section R905.2.5. Underlayment shall be installed over the drip edge along eaves and under the underlayment along rake edges.

NOTE: Struck through text is deleted. Underlined text is inserted.

~~31. Section R1005.7 Factory-build chimney offsets, is amended to add an exception to read as follows:~~

~~**Exception**: When chimneys are installed per manufacturer's installation instructions.~~

~~32. Section R1005.8 Installation, is added, which shall read as follows:~~

~~**Section R1005.8 Installation:** Factory-built chimneys shall be installed in accordance with the manufacturer's installation instructions. The flue chase for a factory-built chimney shall have a minimum of one thickness of five eighths (5/8") inch, Type X drywall or its equivalent extending to the roof sheathing of the structure applied to the inside of every portion of the flue chase that abuts a structure.~~

~~33. Section 1005.9 Required Fire Separation Enclosures, is added, which shall read as follows:~~

~~**Section R1005.9 Required Fire Separation Enclosures.** All prefabricated metal chimneys shall be enclosed in a shaft with one layer of five eighths (5/8") inch, Type X drywall or equivalent from the fireplace connector to the underside of the roof sheathing securely attached with framing material. When the chimney is located on the exterior of the structure, it need only be separated by lining the exterior wall adjacent to the shaft with one layer of five eighths (5/8") inch, Type X drywall or equivalent. All joints are to be tight within one eighth of an inch or taped with a layer of joint compound. Required clearances shall be maintained between chimney and the drywall per chimney manufacturer's specifications.~~

~~34. Section N1101.13 (R401.2) Compliance is amended to read as follows:~~

~~**N1101.13 (R401.2) Compliance.** Projects shall comply with one of the following:~~

~~**1.** Sections N1101.14 through N1104 as amended.~~

~~2. Section N1105 and the provisions of N1101.14 through N1104 labeled "Mandatory."~~

~~3. An energy rating index (ERI) approach in Section N1106.~~

~~35. Section N1102.14 (R401.3) Certificate (Mandatory) is amended to read as follows:~~

~~**Nll0l.14 (R401.3) Certificate (Mandatory).** Unless otherwise presented to the homeowner and building official in writing, a permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawl space wall and/or floor) and ducts outside conditioned spaces; U factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be *listed* for gas fired unvented room heaters, electric furnaces or electric baseboard heaters.~~

~~36. Table Nl102.1.2 (R402.1.2) Insulation and Fenestration Requirements by Component, is amended to read as follows:~~

NOTE: Struck through text is deleted. Underlined text is inserted.

~~Table N1102.1.2 (R402.1.2)~~

Insulation and Fenestration Requirements by Camponent

~~Climate Zone~~	~~Fenestration U-Factor~~	~~Skylight U-Factor~~	~~Glazed Fenestration SHGC[b,e]~~	~~Ceiling R-Value~~
~~1~~	~~NR~~	~~0.75~~	~~0.25~~	~~30~~
~~2~~	~~0.40~~	~~0.65~~	~~0.25~~	~~38~~
~~3~~	~~0.35~~	~~0.55~~	~~0.25~~	~~38~~
~~4 Except Marine~~	~~0.40~~	~~0.55~~	~~NR~~	~~38~~
~~5 and Marine 4~~	~~0.32~~	~~0.55~~	~~NR~~	~~49~~
~~6~~	~~0.32~~	~~0.55~~	~~NR~~	~~49~~
~~7 and 8~~	~~0.32~~	~~0.55~~	~~NR~~	~~49~~

~~Insulation and Fenestration Requirements by Component[a] (continued table)~~

~~Climate Zone~~	~~Wood Frame R-Value~~	~~Mass Wall R-Value~~	~~Floor R-Value~~	~~Basement Wall R-Value~~	~~Slab[d] R-Value Depth~~	~~Crawl Space[e] Wall R-Value~~
~~1~~	~~13~~	~~¾~~	~~13~~	~~0~~	~~0~~	~~0~~
~~2~~	~~13~~	~~4/6~~	~~13~~	~~0~~	~~0~~	~~0~~
~~3~~	~~20 or 13+5[h]~~	~~8/13~~	~~19~~	~~0[i,k]~~	~~10, 2ft~~	~~10/13~~
~~4 Except Marine~~	~~13[l,m]~~	~~8/13~~	~~30[g]~~	~~15/19~~	~~10, 4 ft~~	~~15/19~~
~~5 and Marine 4~~	~~20 or 13+5[h]~~	~~13/17~~	~~30[g]~~	~~15/19~~	~~10, 4 ft~~	~~15/19~~
~~6~~	~~20+5 or 13+10[h]~~	~~15/20~~	~~30[g]~~	~~15/19~~	~~10, 4ft~~	~~15/19~~
~~7 an 8~~	~~20+5 or 13+10[h]~~	~~19/21~~	~~38[g]~~	~~15/19~~	~~10, 4ft~~	~~15/19~~

For SI: 1 foot 304.8mm.

a. ~~*R* values are minimums. U factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R value of the insulation shall not be less than the R value specified in the table.~~

b. ~~The fenestration U factor column excludes skylights. The SHGC column applies to all glazed fenestrations. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.~~

c. ~~"15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "l0/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.~~

NOTE: Struck through text is deleted. Underlined text is inserted.

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.
e. There are no SHGC requirements in the Marine Zone.
f. Basement wall insulation is not required in warm humid locations as defined by Figure N1101.10 or Table N1101.10.
g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
h. The first value is cavity insulation, the second value is continuous insulation, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation.
i. The second R value applies when more than half of the insulation is on the interior of the mass wall.
j. Exception: Unfinished basements may have up to a maximum of 20 percent of the total basement wall area exposed above the outside finished grade/ground level as uninsulated concrete foundation walls. The foundation wall area above the outside grade/ground level that may be uninsulated is determined by the formula [.20 times the basement wall height of all walls (including insulated exterior frame walls for walkout basements and walls common to both basement and attached garages) times the perimeter of these basement walls]. In unfinished areas, the basement foundation wall insulation shall extend down to the basement floor slab or to a minimum of 24 inches below outside finished grade when the grade is above the floor slab elevation.
k. Basement blankets will be required only to depth of the frost line.
l. Low expansive foam shall be used around doors and windows. Foam insulations shall be applied around all exterior wall penetrations and electrical boxes, and caulking shall be applied at the top and bottom of wall plates.
m. Exhaust systems shall be installed in the home and designed to have the capacity to exhaust a minimum air flow rate of 50 cfm intermittent or 20 cfm continuous to help provide outside air through typical home use and passive air infiltration.

37. Section N1102.1.3 (R402.1.3) R-value computation is amended to read as follows:

N1102.1.3 (R402.1.3) R-value computation. Insulation material used in layers, such as framing cavity insulation, or continuous insulation shall be summed to compute the corresponding component R-value. The manufacturer's settled R-value shall be used for blown insulation. Computed R-values may include an R-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table N1102.1.2, the manufacturer's labeled R-Value for insulated siding shall be reduced by R-0.6.

38. Section N1102.2.1 (R402.2.1) Ceilings with attic spaces is amended to read as follows:

N1102.2.1 (R402.2.1) Ceilings with attic space. Where Section R1102.1.2 would require R-38 insulation in the ceiling, installing R-30 over 100 percent of the ceiling area requiring insulation shall be deemed to satisfy the requirement for R-38 wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves using Averaging Computation Method (ACM). Similarly, where Section R1102.1.2 would require R-49 insulation in the ceiling, installing R-38 over 100 percent of the ceiling area requiring insulation shall be deemed to satisfy the requirement for R-49 insulation wherever the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves using Averaging Computation Method (ACM). This reduction shall not apply to the U-factor alternative approach in Section R1102.1.4 and the total UA alternative in Section R1102.1.5.

39. Section N1102.4 (R402.4) Air leakage is amended to read as follows:

N1102.4 (R402.4) Air leakage. The *building thermal envelope* may be designed and constructed to limit air leakage in accordance with the requirements of Sections R1102.4 .1 through R1102.4 .4.

40. Table N1102.4.1.1 (R402.4.1.l) Air Barrier and Insulation, is amended to read as follows:

Table N1102.4.1.1 (402.4.1.1)
Air Barrier and Insulation Installation

Component	Air Barrier Criteria	Insulation Installation Criteria
General Requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed	Air permeable insulation shall not be used as a sealing material.
Ceiling/Attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stairs, or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of the exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
Windows, skylights and doors	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.
Rim Joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.

NOTE: Struck through text is deleted. Underlined text is inserted.

~~Floors (including above garage and cantilevered floors)~~	~~The air barrier shall be installed at any exposed edge of insulation.~~	~~Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.~~
~~Crawl space walls~~	~~Exposed earth in unvented crawl spaces shall be covered with Class I vapor retarder with overlapping joists taped.~~	~~Where provided instead of floor insulation, insulation shall be permanently attached to the crawl space walls.~~
~~Narrow cavities~~		~~Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.~~
~~Garage separation~~	~~Air sealing shall be provided between the garage and conditioned spaces.~~	
~~Plumbing and wiring~~		~~Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.~~
~~Shower/tub on exterior wall~~	~~The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.~~	~~Exterior walls adjacent to showers and tubs shall be insulated.~~
~~Electrical/phone box on exterior walls~~	~~The air barrier shall be installed behind electrical, or communication boxes or air sealed boxes shall be installed.~~	
~~Concealed sprinklers~~	~~When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.~~	

NOTE: Struck through text is deleted. Underlined text is inserted.

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC 400.

41. Section N1102.4.1.2 (R402.4.1.2) Testing is amended to read as follows:

N1102.4.1.2 (R402.4.1.2) Testing. Any building or dwelling unit when constructed substantially above the standards set forth in Table N1102.1.2 shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour in Climate Zone 4. Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

42. Section N1102.4.5 (R402.4.5) Recessed lighting is amended to read as follows:

N1102.4.5 (R402.4.5) Recessed lighting. Recessed luminaires penetrating the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC rated and labeled as having an air leakage rate of not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

43. Section N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory) is amended to read as follows:

N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory). Heating and cooling equipment shall be sized in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed.

44. Section N1104.1 (R404.1) Lighting equipment (Mandatory) is amended to read as follows:

N1104.1 (R404.1) Lighting equipment (Mandatory). When provided by the builder, not less than 75 percent of the supplied lamps in permanently installed lighting

NOTE: Struck through text is deleted. Underlined text is inserted.

fixtures shall be high efficacy lamps or not less than 75 percent of the permanently installed lighting fixtures shall contain only high efficacy lamps.

Exception: Low voltage lighting.

45. Section N1104.1.1 (R404.1.1) Lighting equipment (Mandatory) is deleted.

46. Table N1105.5.2(1) Specifications for the Standard Reference and Proposed Designs, is amended to read as follows:

Table N1105.5.1(1) [R405.5.1(1)]

Specifications for the Standard Reference and Proposed Designs

Building Component	Standard Reference Design	Proposed Design
Above grade walls	Type: mass wall if proposed wall is mass; otherwise, wood frame	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
	Solar absorptance - 0.75	As proposed
	Remittance 0.90	As proposed
Basement and crawl space walls	Type: same as proposed	As proposed
	Gross area: same as proposed	As proposed
	U-factor: from Table N1102.1.4, with insulation layer on interior side of walls	As proposed
Above grade floors	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
Ceilings	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
Roofs	Type: composition shingle on wood sheathing	As proposed
	Gross area: same as proposed	As proposed
	Solar absorptance - 0.75	As proposed
	Emittance - 0.90	As proposed
Attics	Type: vented with aperture = 1ft^2 per 300ft^2 ceiling area	As proposed
Foundations	Type: same as proposed	As proposed
	Foundation wall area above and below grade and soil Characteristics: Same as proposed	As proposed
Opaque doors	Area: 40ft^2	As proposed
	Orientation: North	As proposed
	U factor: same as fenestration from Table N1102.1.4	As proposed
Vertical fenestration other than opaque doors	Total area[b] = 15 percent of the conditioned floor area	As proposed
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W)	As proposed

NOTE: Struck through text is deleted. Underlined text is inserted.

Vertical fenestration other than opaque doors (cont'd)	U-factor: as specified in Table N1102.1.4	As proposed
	SHGC: as specified in Table N1102.1.2 except that for climates with no requirement (NR) SHGC - 0.40 shall be used	As proposed
	Interior shade fraction: 0.92 (0.21 x SHGC for the standard reference design)	0.92 (0.21 x SHGC as proposed)
	External shading: none	As proposed
Skylights	None	As proposed

Thermally isolated sunrooms	None	As proposed
Air exchange rate	Air leakage rate of 5 air changes per hour in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zone 3 through 8at a pressure of 0.2 inches w.g. (50Pa.). The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than 0.01 x CFA + 7.5x (N_{br} + 1) Where: CFA = Conditioned Floor Area N_{br} = Number of Bedrooms Energy recovery shall not be assumed for mechanical ventilation.	For residences that are not tested, the same air leakage rate as the standard reference design. For tested residences, the measured air exchange rate[a]. The mechanical ventilation rate[b] shall be in addition to the air leakage rate and shall be proposed.
Mechanical ventilation	None, except where mechanical ventilation is specified by the proposed design, in which case: Annual vent fan energy use: kWh/yr = 0.03942 x CFA + 29.565 x (N_{br} + 1) Where: CFA = Conditioned Floor Area N_{br} = Number of Bedrooms	As Proposed
Internal Gains	IGain = 17,900 + 23.8 x CFA + 4104 x N_{br} (Btu/day per dwelling unit)	Same as standard reference design.
Internal Mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element[c] but not integral to the building envelope or structure.
Structural Mass	For masonry floor slabs, 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air	As Proposed

NOTE: Struck through text is deleted. Underlined text is inserted.

Structural Mass (cont'd)	For masonry basement walls, as proposed, but with insulation required by Table 402.1.4 located on the interior side of the walls.	As Proposed
	For other walls, for ceilings, floors, and interior walls, wood frame construction.	As Proposed
Heating systems[d,e]	Fuel type: same as the proposed design Efficiencies: Electric: air source heat pump with prevailing federal minimum standards Non-electric Furnaces: natural gas furnace with prevailing federal minimum standards Nonelectric boilers: natural gas boiler with prevailing federal minimum standards Capacity: sized in accordance WITH Section N1103.7	As proposed
Cooling systems[d,f]	Fuel type: electric Efficiency: in accordance with prevailing federal minimum standards Use: gal/day = $30 + 10 \times N_{br}$	As Proposed Same as standard reference
Service water heater[d,e,f]	Fuel type: electric Efficiency: in accordance with prevailing federal minimum standards Use: gal/day =$30 + 10 \times N_{br}$ Tank Temperature: 120°F	As Proposed Same as standard reference
Thermal distribution systems	Duct insulation: from Section N1103.2.1 A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100ft² (9.29m²) of *conditioned floor* area at a pressure of differential of 0.1 inches w.g. (25 Pa)	As tested or specified in Table R405.5.2(2) if not tested. Duct insulation shall be proposed.
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F	Same as standard reference

For SI: 1 square foot 0.93m2, 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88 kg/m2, 1 gallon

a. Where required by the *code official*, testing shall be conducted by an *approved* party. Hourly calculations as specified in the ASHRA.E Hand hook of Fundamentals, or the equivalent shall be used to determine the energy loads resulting from infiltration.

b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE Handbook of Fundamentals, page 26.24 and the "Whole House Ventilation" provisions of 2001 ASHRA.E Handbook of Fundamentals, page 26.19 for intermittent mechanical ventilation.

c. Thermal storage element shall mean a component not part of the floors, walls or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase change containers. A thermal storage element must be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south or must be connected to such a room with pipes or ducts that allow the element to be actively charged.

d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.

e. For a proposed design without a proposed heating system, a heating system with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design

f. For a proposed design home without a proposed cooling system, an electric air conditioner with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.

g. For a proposed design with a non-storage type water heater, a 40-gallon storage type water heater with the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For the case of a proposed design without a proposed water heater, a 40-gallon storage type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

47. Section M1301.2 Identification is amended to read as follows:

M1301.2 identification. Each 10-foot length of pipe and tubing and each pipe fitting utilized in a mechanical system shall bear the identification of the manufacturer.

48. Section M1301.5 Third party testing and certification is deleted.

49. Section M1305.4.1 Ground clearance is amended to read as follows:

M130S.1.4.1 Ground clearance. *Equipment* and *appliances* supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 2 inches (50.8mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. Appliances suspended from the floor shall have a clearance of not less than 6 inches (152mm) from the ground.

50. Section M1305.1.4.3 Electrical requirements is amended to add one exception to read as follows:

Exception: Basements

51. Section M1401.3 Equipment and appliance sizing is amended to read as follows:

M1401.3 Equipment and appliance sizing. Heating and cooling *equipment* and *appliances* shall be sized in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies.

Exception: Heating and cooling equipment and appliance sizing shall not be limited to the capacities determined in accordance with Manual S where either of the following conditions applies:

1. The specified equipment or appliance utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the approved heating and cooling calculation methodology a re within the range of the manufacturer's published capacities for that equipment or appliance.
2. The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the approved heating and cooling calculation methodology and the next larger standard size unit is specified.

52. Section M1501.1 Outdoor discharge is amended to read as follows:

M1501.1 Outdoor discharge. The air removed by every mechanical exhaust system shall be discharged to the outdoors in accordance with Section M1506.2. Air shall not be exhausted into an attic or crawl space.

Exception: Whole house *ventilation* type *attic* fans that discharge into the *attic* space *of dwelling units* having private *attics* shall be permitted.

53. Section M1502.4.1 Material and size is amended to read as follows:

M1502.4.1 Material duct size. Exhaust ducts shall have a smooth interior finish and be constructed of metal having a minimum thickness of 0.0157 inch (0.3950mm) (No. 30 gauge). The duct shall be 4 inches (102 mm) nominal in diameter.

54. Section M1502.4.2 Duct installation is amended to read as follows:

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened, i.e. foil tape or equivalent. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

55. Section M1503.4 Make up air required is amended to read as follows:

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

56. Section M1506.3 Exhaust openings is amended to read as follows:

M1506.3 Exhaust openings. Air exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable and non-operable openings into the building and 6 feet (1828 mm) from mechanical air intakes except where the opening is located 3 feet (914 mm) above the air intake. Openings shall comply with Sections R303.5.2 and R303.6.

57. Section M1601.4.1 Joints, seams and connections is amended to read as

follows:

M1601.4.1 Joints, seems and Connections. Joints of *duct systems* shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked 181A-P for pressure sensitive tape, 181A-M for mastic or 181A-H for heat sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure sensitive tape or 181B-M for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1 means of at least three sheet metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams, locking type joints, and seams of other than snap lock and button lock types.

58. Section G2408.4 (305.7) Clearances from grade is amended to read as follows:

C2408.4 (305.7) Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 2 inches (50.8 mm) above adjoining grade or shall be suspended not less than 6 inches (152 mm) above adjoining grade. Such supports shall be installed in accordance with the manufacturer's installation instructions.

59. Section P2503.5.1 Rough plumbing is amended to read as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or by air without evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough in piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than 5 feet (1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column

(34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

60. Section P2903.5 Water hammer is amended to read as follows:

P2903.5 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A 'Nater hammer arrestor shall be installed 1tYhere quick closing valves are used. 'Nater hammer arrestors shall be installed in accordance with the manufacturer's installation instructions. Water hammer arrestors shall conform to ASSE 1010.

61. Section P2904.1 General is amended to read as follows:

P2904.1 General. When installed, the design and installation of residential fire sprinkler systems shall be in accordance with NFPA 13D or Section 2904, which shall be considered equivalent to NFPA 13D. Partial residential sprinkler systems shall be permitted to be installed only in buildings not required to be equipped with a residential sprinkler system. Section P2904 shall apply to stand alone and multipurpose wet pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow preventer shall not be required to separate a stand-alone system from the water distribution system.

62. Section R3201.2.1 Trap seal protection is amended to add an exception to read as follows:

Exception: Basement floor drains will be allowed to have a deep seal.

63. Section E3902.2 Garage and accessory building receptacles is amended to add an exception to read as follows:

Exception: Fastened in place garage door openers.

64. Section P3902.5 Unfinished basement receptacles is amended to add an exception to read as follows:

Exceptions:

1. A receptacle supplying only a permanently installed fire alarm or burglar alarm system. Receptacles installed in accordance with this exception shall not be considered as meeting the requirements of Section E3901.9.
2. Sump pump: sump pump receptacles must be a single dedicated outlet (not a duplex) and only when a sump pump has been installed.

65. Section P3902.6 Kitchen receptacles is amended to add an exception to read as follows:

Exception: Fastened in place appliances or outlets designated for refrigerators/freezers.

66. Section P3902.10 Kitchen dishwater branch circuit is deleted.

67. Section P3902.14 Location of ground fault circuit interrupters is amended to read as follows:

E3902.14 Location of ground fault circuit interrupters. Ground fault circuit interrupters shall be installed only in a readily accessible location. [210.8(A)]

68. Section P3902.17 Arc fault circuit interrupter protection for branch circuit extensions or modifications is amended by amending the exception to read as follows:

~~**Exception:** AFCI protection shall not be required where the extension of the existing conductors is not more than 30 feet (9.5m) in length and does not include any additional outlets or devices. [210.12(B) Exception]~~

~~69. Section E4002.14 Tamper resistant receptacles is deleted.~~

Section 500.070 International Residential Code For One and Two-Family Dwellings Adopted By Reference.

A. The 2021 International Residential Code for One- and Two-Family Dwellings, including Appendices A, B, C, D, G, H, J, K, N, and P, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the One- and Two-Family Dwelling Code of the City, and made a part of this Section as if fully set forth herein.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Residential Code for One- and Two-Family Dwellings, it shall be deemed to mean the City.

C. Nothing in Sections 500.070 and 500.080 or in the One- and Two-Family Dwelling Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections 500.070 and 500.080. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.070 and 500.080.

D. One (1) copy of Sections 500.070 and 500.080, the 2021 Edition of the International Residential Code for One- and Two-Family Dwellings and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.070 and 500.080.

NOTE: Struck through text is deleted. Underlined text is inserted.

Section 500.080 Amendments.

A. The code adopted by Section 500.070 of this Chapter is hereby amended as follows:

1. Section R102.4 Referenced codes and standards is amended to read as follows:

Section R102.4 Referenced codes and standards. If a referenced standard is in conflict with a code independently and specifically adopted by the City, the standard in the code specifically adopted by the City shall prevail over the referenced standard.

2. Section R103 Department of Building safety is deleted.

3. Section 104.11.2 *Special Inspections.* Is to be added and reads as follows:

Section 104.11.2 *Special Inspections.* The use of alternative materials may require special inspections at the cost of the applicant, owner or authorized agent at the building official's discretion.

4. Section R105.2 Work exempt from permit, the following Sections are amended to read as follows:

Section RI 05.2 Work exempt from permit.

Building:

1. One-story detached accessory structures, provided the floor area does not exceed 144 square feet, or decks/porches provided the floor area does not exceed 25 square feet.

3. Retaining walls that are not over 4 feet (1219 mm) in height measured from finished grade to the top of the wall, unless supporting a surcharge.

5. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade and not over any basement or story below.

8. Swings and other playground equipment accessory to a one- or two- family dwelling.

5. Section R106.3.1 Approval of construction documents, is amended to read as follows:

R106.3.1 Approval of construction documents.

Where the building official issues a permit, the construction documents shall be approved in writing or by a stamp that states "REVIEWED FOR CODE COMPLIANCE." One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, plans are to be available at the site of work or made available at the time of inspection and shall be open to inspection by the building official or a duly authorized representative.

6. Section R108.6 Work commencing before permit issuance is deleted.

7. Section Rl 12 Board of Appeals is deleted.

8. Section Rl 13.4 Violation penalties is deleted.

9. Section R202 Definitions, the definitions of "Rough-In" and "Story Above Grade Plane" are amended to read as follows:

ROUGH-IN. The installation of all parts of the plumbing system that must be completed prior to the installation of fixtures. This includes DWV, water supply and built- in fixture supports. In unfinished areas, rough-ins will require waste lines only.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above *grade plane*, or in which the finished surface of the floor next above is either of the following:

1. More than 6 feet (1829 mm) *above grade plane.*

2. More than 12 feet *(3658* mm) above the finished ground level at any point.

Exception: When a crawl space or supporting wall is below a walkout basement, that supporting wall is to be engineered but will not be considered a story.

10. Table R301.2 (1) Climatic and Geographic Design Criteria, the following values shall be entered into the table and footnotes b and h to the table are amended as follows:

Ultimate Wind Speed: 115 (51)

Ground Snow Load: 20 psf

Wind Design Speed: 90 mph

Wind Topographical Effect: No

Seismic Design Category: C (unless indicated otherwise m a soils evaluation report from an approved geotechnical agency)

Weathering: Severe

Frost Line Depth: 30 inches

Termite: Heavy to Severe

Winter Design Temp: 6

Ice Barrier Underlayment Required: No

Flood Hazards: (a) 4-9-1977, (b) 1-20-2016 & 3-9-2021

Air Freezing Index: 1000

Special Wind Region: No

Windbome Debris Zone: No

Mean Annual Temp: 55.2

Foot Notes b and hare amended to read as follows:

b. The frost line depth may require deeper footings than indicated in Figure R403.1 (1). The *jurisdiction* shall fill in the frost line depth column with 30", the minimum depth of footing below finish *grade.*

h. The jurisdiction shall fill in this part of the table with "No."

11. Section R302.1 Exterior walls, the following exceptions are added to the list of exceptions to read as follows:

6. Cantilevered manufactured fireplaces.

7. Roof eave overhangs.

8. Uncovered decks.

12. Section R302.2 Townhouses, is amended to read as follows:

R302.2 Townhouses. Common walls separating *townhouses* shall be assigned a fire-resistance rating in accordance with Section R302.2, Item 1 or 2. The common wall shared by two *townhouses* shall be constructed without plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and betight against exterior walls and the underside of the roof sheathing. Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations

of the membrane of common walls for electrical outlet boxes shall be in

accordance with Section R302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263.

2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263.

Each *townhouse* shall be considered a separate building and shall be separated by fire-resistance-rated wall assemblies meeting the requirements of Section R302.1 as amended for exterior walls.

Each *townhouse* may be separated with two one-hour fire-resistant exterior walls or a common two-hour fire-resistant-rated wall. The two-hour fire-resistant common wall shall not be used for any plumbing or mechanical equipment, including ducts or vents. Electrical outlet box penetrations of the common two-hour fire-resistant assembly shall be installed in accordance with Section R302.4. A parapet is required above the two-hour common wall, or two one-hour fire-resistant exterior walls constructed in accordance with Section R302.2.3.

13. Section R302.5.1 Open protection, is amended to read as follows:

Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8-inches (35mm) in thickness, solid or honeycomb-core steel

doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

14. Section R302.5.2 Duct penetration, is amended to read as follows:

R302.5.2 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the *dwelling* from the garage shall be constructed of a minimum No. 28-gauge (0.48 mm) sheet steel or other *approved* material and shall not have openings into the garage.

15. Section R302.llfireblocking required, is amended by amending section 7 to read as follows:

7. Open web or perforated truss floor joists must be covered by one sheet of 5/8-inch type "X" fire rated gypsum board (or equivalent) or a NFPA 13D or a NFPA 13R sprinkler system must be installed in the basement.

16. Section R302.13 Fire protection of floors, is amended to read as follows:

R302.13Fire protection of floors.

Floor assemblies that are not required elsewhere in this code to be fire- resistance rated, shall be provided with a 1/2-inch (12.7mm) gypsum wallboard membrane, 5/8-inch (16mm) *wood structural panel* membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations

shall be permitted.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA 13D, or other *approved* equivalent sprinkler system.

2. Floor assemblies located directly over a *crawl space* not intended for storage or for the installation of fuel-fired or electric-powered heating *appliances*.

3. Portions of floor assemblies shall be permitted to be unprotected where complying with the following:

   3.1. The aggregate area of the unprotected portions does not exceed 80 square feet ($7.4m^2$) per story.

   3.2. Fireblocking in accordance with Section R302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.

   3.3. Areas of the floor assembly covered by HVAC metal plenum, trunk lines, and steel structural beams shall be considered protected. Gypsum wallboard membrane or other approved fireblocking material shall be within 1/2-inch of all previously listed items".

4. Wood floor assemblies using dimension lumber or *structural composite lumber* equal to or greater than 2-inch by 10-inch *(50.8*mm by 254mm) nominal dimension, or other *approved* floor assemblies demonstrating equivalent fire performance.

NOTE: Struck through text is deleted. Underlined text is inserted.

17. Section R303.1 Habitable rooms, the following exception is added to the list of exceptions to read as follows:

4. Unfinished basements and utility rooms require natural ventilation (net openable area) at the ratio of 1% of the square footage floor area served. Mechanical ventilation with outdoor air (not re-circulated air) in accordance with the Mechanical Code may be substituted at a rate of .05cfin/sq. ft. of area.

18. Section R303.3 Bathrooms, the exception is amended to read as follows:

Exception: The glazed areas shall not be required where artificial light and a local exhaust system are provided. The minimum local exhaust rates shall be determined in accordance with Section M1507. Exhaust air from the space shall be exhausted directly to the outdoors or to an attic gable vent or ventilated soffit.

19. Section R303.4 Mechanical ventilation, is amended to read as follows:

Where the air infiltration rate of a *dwelling unit* is 3 air changes per hour or less where tested with a blower door at a pressure of 0.2inch w.c. *(50* Pa) in accordance with Section N1102.4.1.2, the *dwelling unit* shall be provided with whole-house mechanical ventilation in accordance with Section M1507.3.

20. Section R303.5.2 Exhaust openings, is amended to read as follows:

Exhaust air shall not be directed below 6 feet and 8 inches onto public walkways.

21. Section R303.8 Exterior stairway illumination, is amended by adding an exception to read as follows:

Exception: Illumination is not required on residential decks that are not part of the required of egress path.

22. Section R306.5 Hose bibb, the following Section is added to read as follows:

Section R306.5 Hose Bibb.

Every dwelling shall provide one outside frost-proof hose bibb. The hose bibb shall be protected from backflow per Section P2902.

23. Section R306.6 Floor Drain, the following Section is added to read as follows:

Section R306.6 Floor Drain. All basements shall have a floor drain within 20 feet of the heating/cooling system(s) and water heaters. The floor drain shall comply with Chapter 27 of the International Residential Code for One- and Two-Family Dwellings.

24. Section R309.5 Fire sprinklers, is amended to read as follows:

R309.5 Fire sprinklers. Private garages shall be protected by fire sprinklers where the garage wall has been designed based on Table 302.1(2), Footnote a, and the homeowner has opted to purchase a fire sprinkler system for their residence, as per Missouri Revised Statutes 67.281. Sprinklers in garages shall be connected to an automatic sprinkler system that complies with Section P2904. Garage sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a density of 0.05 gpm/ft^2. Garage doors shall not be considered obstructions with respect to sprinkler placement.

25. Section R310.1 Emergency escape and rescue opening required, is amended by amending the exceptions to read as follows:

Exceptions:

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m^2).

26. Section R311.3 Floors and landings at exterior doors, is amended to read as follows:

R311.3 Floors and landings at exterior doors. There shall be a landing or floor at each required egress exterior door. The width of each landing shall not be less than the door served. Every landing shall have a dimension of not less than 36 inches (914mm) measured in the direction of travel. The slope at exterior landings shall not to exceed 1/4 unit vertical in 12 units horizontal (2 percent).

Exceptions:

1. Exterior balconies less than 60 square feet (5.6m^2) and only accessible from a door are permitted to have a landing less than 36 inches (914mm) measured in the direction of travel.
2. Non-required means of egress doors with no landing, for future deck/balcony shall be protected with a mechanical fastened 36" tall guard rail if/when the door sill height exceeds (23¼") above grade.

27. Section R311.3.2 Floor elevations for other exterior doors, is amended by amending the exceptions to read as follows:

Exceptions:

1. A top landing is not required where a stairway of four or fewer risers is located on the exterior side of the door, provided the door does not swing over the stairway.

2. Doors, with no landing, for future deck/balcony shall be protected by an approved guard if the door threshold is more than 3 risers *(23 ¼")* above grade.

3. Exterior balconies less than 60 square feet and only accessible from a door are permitted to have a landing less than 36 inches measured in the direction of travel.

28. Sections R313.1 - R313.2.1 Townhouse automatic fire sprinkler systems, are deleted.

29. Section R403.1.4.1 Frost protection, is amended by amending the exceptions to read as follows:

Exceptions:

1. Freestanding accessory structures with an area not exceeding 200 square feet and an eave height of 10 feet or less shall not be required to be protected.

2. Decks not supported by a dwelling, not exceeding 144 square feet, need not be provided with footings that extend below the frost line. Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

30. Section R403.1.7 Footings on or adjacent to slopes, is amended to read as follows:

The placement of buildings and structures on or adjacent to slopes steeper than 1 unit vertical in 3 units horizontal (33.3 percent slope) shall conform to Sections R403.1.7.1 through R403.1.7.4 or plans as signed and sealed by a registered structural engineer.

31. Section R405.1 Concrete and masonry foundations, is amended by amending the exceptions to read as follows:

Exceptions:

1. A drainage system is not required where the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R405.1.

2. Drains provided as detailed in Section R405.1.2 are approved as an alternative method to meet the requirements of this section.

32. Section R405 Foundation Drainage, is amended to add five new subsections to read as follows:

R405.1.2 Soil evaluations. An evaluation of the soil from a geotechnical Engineer for the presence or absence of groundwater is required. The evaluation report shall be based on either a subsurface soil investigation or satisfactory data from adjacent areas together with an inspection of the excavation prior to pouring concrete.

R405.1.2.1 Groundwater present. Provide drain tile, perforated pipe or other approved foundation drainage systems (such as water channel system) around perimeter of the outside of the foundation and inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

R405.1.2.2 No groundwater present. Provide drain tile, perforated pipe or other approved foundation drainage systems (such as water channel system) around perimeter of the outside of the foundation or inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump pit/pump.

R405.1.2.3 Filter membranes. An approved filter membrane shall be placed over the top of the joints/pipe perforations. The tile/pipe shall be placed on 2 inches minimum of gravel or crushed stone and have 6 inches of minimum cover.

R405.1.2.4 Drainage system. A drainage system shall discharge by gravity to daylight or be connected to an approved sump (18" inches in diameter x 24" inches deep with fitted cover). A sump pump shall be provided if the basement is finished or partially finished with pump discharge by an approved method.

33. Section R506.2.3 Vapor Retarder, is amended to read as follows:

R506.2.3 Vapor Retarder. A minimum ~~10 mil (0.010 inch; 0.254mm)~~ 6 mil (0.006 inch; 0.152 1mn) vapor retarder conforming to ASTM E1745 Class A requirements with joints lapped not less than 6 inches (152 1mn) shall be placed between the concrete floor slab and the base course or the prepared subgrade where a base course does not exist.

34. Table R507.9.1.3 (1) Deck Ledger Connection to Band Joist, is amended to read as follows:

Table R507.9.1.3(1) DECK LEDGER CONNECTION TO BAND JOIST
(Deck Live Load = 40 psf, Deck Dead Load = 10 psf, Snow Load < 40 psf)

Joist Span	6'0" and Less	6'1" to 8'0"	8'1" to 10'0"	10'1" to 12'0"	12'1" to 14'0"	14'1" to 16'0"	16'1" to 18'0"
Connection Details	On-Center Spacing of Fasteners						
½" diameter lag screw with ½" maximum sheathing	16	16	16	15	13	11	10
½" diameter bolt with ½" maximum sheathing	24	24	24	24	24	21	19
½" diameter bolt with 1" maximum sheathing	24	24	24	24	21	18	16

35. Section R905.2.8.2 Valleys, is amended to read as follows:

R905.2.8.2 Valleys. Valley linings shall be installed in accordance with the manufacturer's instructions before applying shingles. Valley linings of the following types shall be permitted:

1. For open valleys (valley lining exposed) lined with metal, the valley lining shall be not less than 24 inches (610mm) wide and of any of the corrosion-resistant metals in table R905.2.8.2.

2. For open valleys, valley lining of two plies of mineral-surfaced roll roofing, complying with ASTM D 3909 or ASTM D 6380 Class M, shall be permitted. The bottom layer shall be 18 inches (457mm) and the top layer not less than 36 inches (914mm) wide.

3. For closed valleys (valley covered with shingles), valley lining of two ply of No.15

NOTE: Struck through text is deleted. Underlined text is inserted.

felt complying with ASTM D 226 Type I, ASTM D 4869 Type I, or ASTM D 6757, or valley lining as described in Item 1 and 2 shall be permitted. Self-adhering polymer modified bitumen underlayment complying with ASTM D 1970 shall be permitted in lieu of the lining material.

36. Section R905.2.8.5 Drip edge, is amended to read as follows:

R905.2.8.5 Drip Edge. A drip edge or equivalent shall be provided at eaves and rake edges of shingle roofs. Adjacent segments of drip edge shall be overlapped not less than 2 inches (51 mm). Drip edges shall extend not less than 1/4 inch (6.4 mm) below the roof sheathing and extend up back onto the roof deck not less than 2 inches (51 mm). Drip edges shall be mechanically fastened to the roof deck at not more than 12 inches (305 mm) o.c. with fasteners as specified in Section R905.2.5. Underlayment shall be installed over the drip edge along eaves and under the underlayment along rake edges.

37. Section R1005.7 Factory-build chimney offsets, is amended to add an exception to read as follows:

Exception: When chimneys are installed per manufacturer's installation instructions.

38. Section R1005.8 Installation, is added, which shall read as follows:

Section R1005.8 Installation: Factory-built chimneys shall be installed in accordance with the manufacturer's installation instructions. The flue chase for a factory-built chimney shall have a minimum of one thickness of five-eighths (5/8") inch, Type X drywall or its equivalent extending to the roof sheathing of the structure applied to the inside of every portion of the flue chase that abuts a structure.

39. Section 1005.9 Required Fire Separation Enclosures, is added, which shall read as follows:

Section R1O0S.9 Required Fire Separation Enclosures. All prefabricated metal chimneys shall be enclosed in a shaft with one layer of five-eighths (5/8") inch, Type X drywall or equivalent from the fireplace connector to the underside of the roof sheathing securely attached with framing material. When the chimney is located on the exterior of the structure, it need only be separated by lining the exterior wall adjacent to the shaft with one layer of five-eighths (5/8") inch, Type X drywall or equivalent. All joints are to be tight within one-eighth of an inch or taped with a layer of joint compound. Required clearances shall be maintained between chimney and the drywall per chimney manufacturer's specifications.

40. R1006.2 Exterior air intake, is amended to read as follows:

R1006.2 Exterior air intake. The exterior air intake on masonry fireplaces shall be capable of supplying ~~all~~ *combustion air* from the exterior of the *dwelling* or from spaces within the *dwelling* ventilated with outdoor air such as nonmechanically ventilated crawl or attic spaces. The exterior air intake shall not be located within the garage or *basement* of the dwelling. The exterior air intake, for other than *listed* factory-built fireplaces, shall not be located at an elevation higher than the firebox. The exterior air intake shall be covered with a corrosion-resistant screen of 1/4-inch (6.4 mm) mesh.

41. Chapter 11 is to be amended to read as follows:

All sections of chapter 11 of the 2021 International Residential Code and referenced 2021 International Energy Conservation Code are to be deleted. Chapter 11 shall reference the 2015 International Residential Code and 2015 International Energy Conservation Code and their amended sections as listed per city ordinance.

42. Section N1101.13 (R401.2) Compliance is amended to read as follows:

N1101.13 (R401.2) Compliance. Projects shall comply with one of the following:

1. Sections N1101.14 through N1104 as amended.

2. Section N1105 and the provisions of Sections N1101.14 through N1104 labeled "Mandatory."

3. An energy rating index (ERI) approach in Section N1106.

43. Section N1102.14 (R401.3) Certificate (Mandatory) is amended to read as follows:

N1101.14 (R401.3) Certificate (Mandatory). Unless otherwise presented to the home owner and building official in writing, a permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation (slab, *basement wall*, crawl space wall and/or floor) and ducts outside conditioned spaces; *U*-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as

appropriate. An efficiency shall not be *listed* for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

44. Table N1102.1.2 {R402.1.2) Insulation and Fenestration Requirements by Component, is amended to read as follows:

Table N1102.1.2 (R402.1.2)

Insulation and Fenestration Requirements by Component[a]

Climate Zone	Fenestration on *U*- Factor[b]	Skylight[b] *U*- Factor	Glazed Fenestration SHGC[b,e]	Ceiling *R*-Value
1	**NR**	0.75	0.25	30
2	0.40	0.65	0.25	38
J	0.35	0.55	0.25	38
4 except Marine	0.40	0.55	NR	38
5 and Marine 4	0.32	0.55	NR	49
Q	0.32	0.55	NR	49
7 and 8	0.32	0.55	NR	49

Insulation and Fenestration Requirements by Component[a] (continued table)

Climate Zone	Wood Frame Wall *R*-Value	Mass Wall *R*-Value[i]	Floor *R*-Value	Basement[c] Wall *R*-Value	Slab[d] *R*-Value & Depth	Crawl Space[c] Wall *R*-Value
1	13	3/4	13	0	0	0
2	13	4/6	13	0	0	0
3	20 or 13 + 5[h]	8/13	19	5/13[f]	0	5/13
4 except Marine	13[l,m]	8/13	19	0[j,k]	10, 2ft	10/13
5 and Marine 4	20 or13 + 5[h]	13/17	30[g]	15/19	10, 2ft	15/19
6	20+ 5 or 13 + 10[h]	15/20	30[g]	15/19	10, 4ft	15/19
7 and 8	20 + 5 or 13 + 10[h]	19/21	38[g]	15/19	10, 4ft	15/19

For SI: 1 foot= 304.8mm.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall not be less than the *R*-value specified in the table.

NOTE: Struck through text is deleted. Underlined text is inserted.

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.10 or Table N1101.10.

g. Or insulation sufficient to fill the framing cavity, R-19 minimum.

h. The first value is cavity insulation, the second value is continuous insulation, so" 13+5" means R-13 cavity insulation plus R-5 continuous insulation.

i. The second *R*-value applies when more than half of the insulation is on the interior of the mass wall.

j. Exception: Unfinished basements may have up to a maximum of 20 percent of the total basement wall area exposed above the outside finished grade/ground level as uninsulated concrete foundation walls. The foundation wall area above the outside grade/ground level

that may be uninsulated is determined by the formula [.20 times the basement wall height of all walls (including insulated exterior frame walls for walkout basements and walls common to both basement and attached garages) times the perimeter of these basement walls]. In unfinished areas, the basement foundation wall insulation shall extend down to the basement floor slab or to a minimum of 24 inches below outside finished grade when the grade is above the floor slab elevation.

k. Basement blankets will be required only to depth of the frost line.

l. Low expansive foam shall be used around doors and windows. Foam insulations shall be applied around all exterior wall penetrations and electrical boxes, and caulking shall be applied at the top and bottom of wall plates.

m. Exhaust systems shall be installed in the home and designed to have the capacity to exhaust a minimum air flow rate of 50 cfm intermittent or 20 cfm continuous to help provide outside air through typical home use and passive air infiltration.

45. Section N1102.1.3 (R402.1.3) *R*-value computation is amended to read as follows:

N1102.1.3 (R402.1.3) *R*-value computation. Insulation material used in layers, such as framing cavity insulation, or continuous insulation shall be summed to compute the corresponding component *R*-value. The manufacturer's settled R-value shall be used for blown insulation. Computed *R*-values may include an R-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table N1102.1.2, the manufacturer's labeled *R*-Value for insulated siding shall be reduced by R-0.6.

46. Section N1102.2.1 (R402.2.1) Ceilings with attic spaces is amended to read as follows:

N1102.2.1 (R402.2.1) Ceilings with attic spaces. Where Section R1102.1.2 would require R-38 insulation in the ceiling, installing R-30 over 100 percent of the ceiling area requiring insulation shall be deemed to satisfy the requirement for R-38 wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves using Averaging Computation Method (ACM). Similarly, where Section R1102.1.2 would require R-49 insulation in the ceiling, installing R-38 over 100 percent of the ceiling area requiring insulation shall be deemed to satisfy the requirement for R-49 insulation wherever the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves using Averaging Computation Method (ACM). This reduction shall not apply to the *U*-factor alternative approach in Section R1102.1.4 and the total UA alternative in Section R1102.1.5.

47. Section N1102.4 (R402.4) Air leakage is amended to read as follows:

N1102.4 (R402.4) Air leakage. The *building thermal envelope* may be designed and constructed to limit air leakage in accordance with the requirements of Sections R1102.4.1 through R1102.4.4.

48. Table N1102.4.1.1 (R402.4.1.1) Air Barrier and Insulation, is amended to read as follows:

Table N1102.4.1.1 (402.4.1.1)

Air Barrier and Insulation Installation

Component	Air Barrier Criteria	Insulation Installation Criteria
General Requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.

Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic s12aces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.

NOTE: Struck through text is deleted. Underlined text is inserted.

Walls	The junction of the foundation and sill plate shall be sealed. The junction of the to12 12late and the top of the exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. External thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.

Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.	
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.

NOTE: Struck through text is deleted. Underlined text is inserted.

Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with Class I vapor retarder with overlapping joists taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawl space walls.

Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.

Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.

Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	

Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC 400.

49. Section N1102.4.1.2 (R402.4.1.2) Testing is amended to read as follows:

N1102.4.1.2 (R402.4.1.2) Testing. Any building or dwelling unit when constructed substantially above the standards set forth in Table N1102.1.2 shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour in Climate Zone 4. Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the *code official*, testing shall be conducted by an *approved* third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.

3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

50. Section N1102.4.5 (R402.4.5) Recessed lighting is amended to read as follows:

N1102.4.5 (R402.4.5) Recessed lighting. Recessed luminaires-penetrating *the building thermal envelope* shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 Lis) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

51. Section N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory) is amended to read as follows:

N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory).

Heating and cooling equipment shall be sized in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed.

52. Section N1104.1 (R404.1) Lighting equipment (Mandatory) is amended to read as follows:

N1104.1 (R404.1) Lighting equipment (Mandatory). When provided by the builder, not less than 75 percent of the supplied lamps in permanently installed lighting fixtures shall be high-

efficacy lamps or not less than 75 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps.

Exception: Low-voltage lighting.

53. Section N1104.1.1 (R404.1.1) Lighting equipment (Mandatory) is deleted.

54. TABLE N1105.5.2(1) Specifications for the Standard Reference and Proposed Designs, is amended to read as follows:

Table N1105.5.2(1) (R405.5.2(1))

Specifications for the Standard Reference and Proposed Designs

Building Component	Standard Reference Design	Proposed Design
Above-grade walls	Type: mass wall if proposed wall is mass; otherwise wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
	Solar absorptance = 0.75	As proposed
	Remittance = 0.90	As proposed
Basement and crawl space walls	Type: same as proposed	As proposed
	Gross area: same as proposed	As proposed
	U-factor: from Table N1102.1.4, with insulation layer on interior side of walls	As proposed
Above-grade floors	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed

NOTE: Struck through text is deleted. Underlined text is inserted.

Above-grade floors	*U*-factor: as specified in Table N1102.1.4	As proposed
Ceilings	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
Roofs	Type: composition shingle on wood sheathing	As proposed
	Gross area: same as proposed	As proposed
	Solar absorptance = 0.75	As proposed
	Emittance= 0.90	As proposed
Attics	Type: vented with a12erture = 1 ft^2 per 300 ft^2 ceiling area	As proposed
Foundations	Type: same as proposed	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed	As proposed
Opaque doors	Area: 40 ft^2	As proposed
	Orientation: North	As proposed
	U-factor: same as fenestration from Table NI I02.1.4	As Proposed
Vertical fenestration other than opaque doors	Total area[b] = 15 percent of the conditioned floor area	As proposed
	Orientation: Equally distributed to four cardinal compass orientations (N, E, S, W)	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed

NOTE: Struck through text is deleted. Underlined text is inserted.

Vertical fenestration other than opaque doors (Cont'd)	SHGC: as specified in Table N1102.1.2 except that for climates with no requirement (NR) SHGC = 0.40 shall be used	As proposed
	Interior shade fraction: 0.92 - (0.21 x SHGC for the standard reference design)	0.92 - (0.21 X SHGC as proposed)
	External shading: none	As proposed
Skylights	None	As proposed
Thermally isolated sunrooms	None	As proposed
Air exchange rate	Air leakage rate of 5 air changes per hour in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zones 3 through 8 at a pressure of 0.2 inches w.g. (50 Pa). The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than 0.01 x CFA + 7.5 x (N_{br} + 1) where: *CFA* = conditioned floor area N_{br} = number of bedrooms	For residences that are not tested, the same air leakage rate as the standard reference design. For tested residences, the measured air exchange rate[a] The mechanical ventilation rate[b] shall be in addition to the air leakage rate and shall be proposed.

NOTE: Struck through text is deleted. Underlined text is inserted.

Air exchange rate (Cont'd)	Energy recovery shall not be assumed for mechanical ventilation	

Mechanical ventilation	None, except where mechanical ventilation is specified by the proposed design, in which case: Annual vent fan energy use: kWh/yr= 0.03942 X *CFA* + 29.565 X $(N_{br} + 1)$ where: *CFA* = conditioned floor area N_{br} = number of bedrooms	As proposed
Internal gains	IGain= 17,900 + 23.8 x *CFA* + 4104 x N_{br} (Btu/day per dwelling unit)	Same as standard reference design.
Internal mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element[c] but not integral to the building envelope or structure.

NOTE: Struck through text is deleted. Underlined text is inserted.

Structural mass	For masonry floor slabs, 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air	As proposed
	For masonry basement walls, as proposed, but with insulation required by Table R402.1.4 located on the interior side of the walls	As proposed
	For other walls, for ceilings, floors, and interior walls, wood frame construction	As proposed
Heating systems[d,e]	Fuel type: same as the proposed design Efficiencies: Electric: air-source heat pump with prevailing federal minimum standards Nonelectric Furnaces: natural gas furnace with prevailing federal minimum standards Nonelectric boilers: natural gas boiler with prevailing federal minimum standards Capacity: sized in accordance with Section N1103.7	As proposed

NOTE: Struck through text is deleted. Underlined text is inserted.

Cooling systems[d,f]	Fuel type: electric Efficiency: in accordance with prevailing federal minimum standards Capacity: sized in accordance with Section N1103.7	As proposed
Service water Heating[d,e,f]	Fuel type: same as proposed design Efficiency: in accordance with prevailing federal minimum standards Use: gal/day= 30 + 10 x N_{br} Tank temperature: 120°F	As proposed Same as standard reference
Thermal distribution systems	Duct insulation: from Section N1103.2.1 A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft^2 (9.29 m^2) of *conditioned floor* area at a pressure of differential of 0.1 inches w.g. (25 Pa)	As tested or specified in Table R405.5.2 (2) if not tested. Duct insulation shall be as proposed.

NOTE: Struck through text is deleted. Underlined text is inserted.

Thermostat	Type: Manual, cooling temperature setpoint = 75^0F Heating temperature = 72^0F	Same as standard reference

For SI: 1 square foot= 0.93 m^2, 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88

kg/m^2, 1 gallon (US) = 3.785 L, °C = (°F-32)/1.8, 1 degree = 0.79 rad

a. Where required by the *code official*, testing shall be conducted by an *approved* party. Hourly calculations as specified in the ASHRAE *Handbook of Fundamentals*, or the equivalent shall be used to determine the energy loads resulting from infiltration.

b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE *Handbook of Fundamentals*, page 26.24 and the "Whole-house Ventilation" provisions of 2001 ASHRAE *Handbook of Fundamentals*, page 26.19 for intermittent mechanical ventilation.

c. Thermal storage element shall mean a component not part of the floors, walls or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element must be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or must be connected to such a room with pipes or ducts that allow the element to be actively charged.

d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel

types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.

e. For a proposed design without a proposed heating system, a heating system with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design.

f. For a proposed design home without a proposed cooling system, an electric air conditioner with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.

g. For a proposed design with a nonstorage-type water heater, a 40-gallon storage-type water heater with the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For the case of a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

55. Section M1301.2 Identification is amended to read as follows:

M1301.2 Identification. Each 10-foot length of pipe and tubing and each pipe fitting utilized in a mechanical system shall bear the identification of the manufacturer.

56. Section M1305.1.3.1 Ground clearance, is amended to read as follows:

M1305.1.3.1 Ground clearance. *Equipment* and *appliances* supported from the ground shall be level and firmly supported on a concrete slab or other *approved* material extending not less than 2 inches (50.8 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions.

Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

57. Section M1305.1.3.3 Electrical requirements is amended to add one exception to read as follows:

Exception: Basements

58. Section M1307.2 Anchorage of appliances is amended to read as follows:

M1307.2 Anchorage of appliances. *Appliances* designed to be fixed in position shall be fastened or anchored in an *approved* manner. In Seismic Design Categories Do, D1 and D2, ~~and in townhouses in Seismic Design Category C~~, water heaters and thermal storage units shall be anchored or strapped to resist horizontal displacement caused by earthquake motion in accordance with one of the following:

1. Anchorage and strapping shall be designed to resist a horizontal force equal to one-third of the operating weight of the water heater storage tank, acting in any horizontal direction. Strapping shall be at points within the upper one-third and lower one-third of the *appliance's* vertical dimensions. At the lower point, the strapping shall maintain a minimum distance of 4 inches (102 mm) above the controls.

2. The anchorage strapping shall be m accordance with the appliance manufacturer's recommendations.

59. Section M1401.3 Equipment and appliance sizing is amended to read as follows:

M1401.3 Equipment and appliance sizing. Heating and cooling *equipment*

NOTE: Struck through text is deleted. Underlined text is inserted.

and *appliances* shall be sized in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies.

Exception: Heating and cooling equipment and appliance sizing shall not be limited to the capacities determined in accordance with Manual S where either of the following conditions applies:

1. The specified equipment or appliance utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the approved heating and cooling calculation methodology are within the range of the manufacturer's published capacities for that equipment or appliance.

2. The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the approved heating and cooling calculation methodology and the next larger standard size unit is specified.

60. MI411.6 Insulation of refrigerant piping is amended to read as follows:

M1411.6 Insulation of refrigerant piping. Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation having a thermal resistivity of not less than R-2.83.

61. Section M1501.1 Outdoor discharge is amended to read as follows:

M1501.1 Outdoor discharge. The air removed by every mechanical exhaust system shall be discharged to the outdoors in accordance with Section M1504.3. Air shall not be exhausted into an attic, soffit, ridge vent or *crawl space*.

NOTE: Struck through text is deleted. Underlined text is inserted.

Exceptions:

1. Whole-house *ventilation-type* attic fans that discharge into the attic space of *dwelling units* having private *attics* shall be permitted.
2. Bathroom exhaust may discharge to an attic gable vent or ventilated soffit.

62. Section M1502.4.1 Material and size is amended to read as follows:

M1502.4.1 Material and size. Exhaust ducts shall have a smooth interior finish and be constructed of metal having a minimum thickness of 0.0157 inch (0.3950 mm) (No. 30 gauge). The duct shall be 4 inches (102 mm) nominal in diameter.

63. Section M1502.4.2 Duct installation is amended to read as follows:

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened, i.e. foil tape or equivalent. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

64. Section M1503.6 Makeup air required is amended to read as follows:

M1503.6 Makeup air required. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

65. Section M1504.3 Exhaust openings is amended to read as follows:

M1504.3 Exhaust openings. Air exhaust openings shall terminate as follows:

1. Not less than 3 feet (914 mm) from gravity air intake openings, operable windows and doors.
2. Not less than 10 feet (3048 mm) from mechanical air intake openings except where the exhaust opening is located not less than 3 feet (914 mm) above the air intake opening. Openings shall comply with Sections R303.5.2 and R303.6.

66. TABLE M1601.1.1 Duct Construction Minimum Sheet Metal Thickness for Single Dwelling Units, is amended to read as follows:

Table M1601.1.1

Duct Construction Minimum Sheet Metal Thickness for Single Dwelling Units[3]

Round Duct Diameter (inches)	Static Pressure			
	½ inch water gauge		1 inch water gauge	
	Thickness (inches)		Thickness (inches)	
	Galvanized	Aluminum	Galvanized	Aluminum
< 12	0.013	0.018	0.013	0.018
12 to 14	0.013	0.018	0.016	0.023
15 to 17	0.016	0.023	0.019	0.027
18	0.016	0.023	0.024	0.034
19 to 20	0.019	0.027	0.024	0.034
Rectangular Duct Dimension (largest dimension)	Static Pressure			
	½ inch water gauge		1 inch water gauge	
	Thickness (inches)		Thickness (inches)	
	Galvanized	Aluminum	Galvanized	Aluminum

NOTE: Struck through text is deleted. Underlined text is inserted.

≤8	0.013	0.018	0.013	0.018
9 to 10	0.013	0.018	0.016	0.023
11 to 12	0.016	0.023	0.019	0.027
13 to 16	~~0.019~~ 0.016	0.027	0.019	0.027
17 to 18	0.019	0.027	0.024	0.034
19 to 20	~~0.024~~ 0.019	0.034	0.024	0.034

For SI: 1 inch= 25.4 mm. 1 inch water gauge = 249 Pa.

a. Ductwork that exceeds 20 inches by dimension or exceeds a pressure of 1 inch water gauge shall be constructed in accordance with SMACNA *HVAC Duct Construction Standards - Metal and Flexible.*

67. Section M1601.4.1 Joints, seams and connections 1s amended to read as follows:

M1601.4.1 Joints, seams and connections. Joints of *duct systems* shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other *approved* closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked 181A-P for pressure-sensitive tape, 181A-M for mastic or 181A-H for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure-sensitive tape or 181B-M for mastic. Duct connections to flanges of air distribution system *equipment* or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1½ means of at least three sheet metal screws or rivets equally spaced around the

NOTE: Struck through text is deleted. Underlined text is inserted.

joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams of other than snap-lock and button-lock types.

68. Sections M2101.16 CPVC plastic pipe & M2101.16.1 Threaded joints are deleted.

69. M2101.26 Pipe penetrations. Clearances from grade is amended to read as follows:

M2101.26 Pipe penetrations. Openings for pipe penetrations in walls, floors and ceilings shall be larger than the penetrating pipe. Openings in the foundation wall underground shall be sealed to not allow groundwater into a building.

70. Section G2408.4 (305.7) Clearances from grade is amended to read as follows:

G2408.4 (305.7) Clearances from grade. *Equipment* and *appliances* installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 2 inches (50.8 mm) above adjoining grade or shall be suspended not less than 6 inches

NOTE: Struck through text is deleted. Underlined text is inserted.

(152 mm) above adjoining grade. Such supports shall be installed in accordance with the manufacturer's installation instructions.

71. Section P2503.5.1 Rough plumbing is amended to read as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or by air without evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough-in piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than 5 feet (1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.

2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

72. P2801.8 Water heater seismic bracing is amended to read as follows:

P2801.8 Water heater seismic bracing. In Seismic Design Categories Do, D, and D2 water heaters shall be anchored or strapped in the upper one-third and in the lower one-third of the *appliance* to resist a horizontal force equal to one-third of the operating weight of the water heater, acting in any horizontal direction, or in accordance with the *appliance* manufacturer's recommendations.

73. Section P3201.2.1 Trap seal protection is amended to add an exception to read as follows:

Exception: Basement floor drains will be allowed to have a deep seal.

74. Section E3601.8 Emergency disconnects is to be deleted.

75. Sections E3606.5 through E3606.5.3 surge protection are to be deleted.

76. E3902.2 Garage and accessory building receptacles is amended to read as follows:

E3902.2 Garage and accessory building receptacles 125-volt, single-phase, 15- or 20-ampere receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protection for personnel. [210.8(A) (2)].

Exception:

Garage door opener receptacles not installed in a readily accessible location.

77. Section E3902.5 Unfinished basement receptacles is amended to read as follows:

E3902.5 Unfinished basement receptacles: 125-volt, single-phase, 15- and 20-ampere receptacles installed in unfinished basements shall have ground-fault circuit-interrupter protection for personnel. For purposes of this section, unfinished basements are defined as portions or areas of the basement not intended as habitable rooms and limited to storage areas, work areas, and similar areas. (210.8(A) (5)].

Exceptions:

1. A receptacle supplying only a permanently installed fire alarm or burglar alarm system. Receptacles installed in accordance with this exception shall not be considered as meeting the requirement of Section E3901.9. [210.8{A){5) Exception]
2. Fastened in place appliances or **Single plugged receptacle** designated for refrigerators/freezers.
3. Sump pump: sump pump receptacles must be a single dedicated outlet (not a duplex) and only when a sump pump has been installed.

78. Section E3902.6 Kitchen receptacles is amended to add an exception to read as follows:

Exception: Fastened-in-place appliances or outlets designated for refrigerators/freezers.

79. E3902.9 Laundry areas is amended to read as follows:

E3902.9 Laundry areas 125-volt, single-phase, 15- and 20-ampere receptacles installed in laundry areas shall have ground-fault circuit interrupter protection for personnel [210.8{A) (10)]

80. Section E3902.11 Kitchen dishwater branch circuit is deleted.

81. Section P3902.14 Location of ground-fault circuit interrupters is amended to read as follows:

82. Section P3902.17 Arc-fault circuit interrupter protection is amended to read as follows:

E3902.17 Arc-fault circuit-interrupter protection. Branch circuits that supply 120-volt, single phase, 15- and 20-ampere outlets installed in, ~~kitchens~~, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, *sunrooms*, recreations rooms, closets, hallways, ~~laundry areas~~ and similar rooms or areas shall be protected by any of following: [210.12(A)]

1. A *listed* combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit. [210. l 2(A) (1)]
2. A *listed* branch/feeder-type AFCI installed at the origin of the branch-circuit in combination with a *listed* outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit. [210.12(A)(2)]
3. A *listed* supplemental arc-protection circuit breaker installed at the origin of the branch circuit in combination with a *listed* outlet branch-circuit type arc-fault circuit

interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:

a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.

b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors.

c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet on the circuit. [210.12(A)(3)]

4. A *listed* outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a *listed* branch-circuit overcurrent protective device where all of the following conditions are met:

a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.

b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the fist outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors.

c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet on the circuit.

d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be *listed* as such. [210.12(A)(4)].

5. Where metal raceways, metal wireways, metal auxiliary gutters or Type MC or Type AC

cable meeting the applicable requirements of Section E3908.9 with metal boxes, metal conduit bodies and metal enclosures are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a *listed* outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit. [210.l 2(A)(5)]

6. Where a *listed* metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 2 inches (50.8 mm) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a *listed* outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit. [210.12(A)(6)]

Exception:

- AFCI protection shall not be required for an individual branch circuit supplying a fire alarm system where the branch circuit is installed in a metal raceway, metal auxiliary gutter, steel-armored cable, Type MC or Type AC, meeting the requirements of Section E3908.9, with metal boxes, conduit bodies and enclosures.

- AFCI protection shall not be required for all kitchen countertop receptacles, laundry receptacles and/or other already required GFCI protected outlets.

83. E3902.18 Arc-fault circuit interrupter protection for branch circuit extensions or modifications is amended to read as follows:

E3902.18 Arc-fault circuit interrupter protection for branch circuit extensions or modifications. Where branch-circuit wiring is modified, replaced, or extended in any of the areas specified in Section E3902.17, the branch circuit shall be protected by one of the following:

1. A combination-type AFCI located at the origin of the branch circuit.

2. An outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit. [210.12(8)]

Exception: AFCI protection shall not be required where the extension of the existing branch circuit conductors is not more than ~~6 feet (1.8 m)~~ 30 feet (9.5 m) in length and does not include any additional outlets or devices other than splicing devices. This measurement shall not include the conductors inside an enclosure, cabinet or junction box. [210.12(8) Exception]

84. Section E4002.14 Tamper resistant receptacles is deleted.

SECTION 3: Sections 500.110 and 500.120 of Chapter 500, Article V, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.110 and 500.120 to read follows:

~~**Section S00.110. International Property Maintenance Code Adopted by Reference**~~

~~A. The 2015 Edition of the International Property Maintenance Code, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Property Maintenance Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Property Maintenance Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.110 and S00.120** or in the Property Maintenance Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended as cited in Sections **500.110** and **500.120.** No just or legal right or remedy of any character shall be lost, impaired, or affected by Sections **500.110** and **500.120.**~~

~~D. One (1) copy of Sections **500.110 and 500.120,** the 2015 Edition of the International Property Maintenance Code, and the proposed amendments have been on file in the City Clerk's Office at least ninety (90) days prior to the adoption of Sections **500.110 and 500.120.**~~

~~**Section 500.120. Amendments.**~~

~~A. The code adopted by Section **500.110** is hereby amended as follows:~~

~~1. Section PM 101.1, Title, is amended to read as follows:~~

~~**PM 101.1 Title**. These regulations shall be known as the "Property Maintenance Code of~~

NOTE: Struck through text is deleted. Underlined text is inserted.

Foristell, Missouri," hereinafter referred to as "this code."

2. Section 103, Department of Property Maintenance Inspection, is deleted.
3. Section PM 106.4, Violation penalties, is deleted.
4. Sections PM 111.2 through PM 111.8 are hereby deleted.
5. The following section is deleted: PM 302.4, Weeds.
6. The following section is deleted: PM 302.8, Motor Vehicles.
7. Section PM 304.13, window, skylight and door frames, is amended by adding a new Subsection PM 304.13.3 which shall read as follows:
   With the approval of the Director of Community Development, doors, and windows in structures with broken, cracked or missing glazing material may be temporarily boarded up for a period not to exceed ninety (90) days or for the term of any permit issued by the Department of Community Development. After the expiration of such permit, or after ninety (90) days when no permit is required, boarding on all doors and windows must be removed and doors and windows shall then contain glazing which is free from cracks and holes. In no event shall a door be boarded up which had no glazing as part of its composition. Upon failure of the owner to comply with this section and by order of the Director of Community Development, the Director of Community Development after notice pursuant to Section PM 107 shall cause the installation of the appropriate glazing through any available public agency, or by contract or arrangements by private parties, and the cost thereof shall be charged against the real estate upon which the structure is located and shall be a lien upon such real estate.

8. Section PM 304.14, Insect screens, is amended to read as follows:
   PM 304.14 Insect Screens. During the period from April 1 to November 1, every door, window and other outside opening required for ventilation of habitable rooms, food preparation areas, food service areas, or any areas where products to be included or utilized in food for human consumption are processed, manufactured, packaged or stored shall be supplied with approved tightly fitting screens of not less than 16 mesh per inch (16 mesh per 25 mm), and every swinging door shall have a self-dosing device in good working condition.

   Exception: Screen doors shall not be required where other approved means, such as air curtains or insect repellent fans, are employed.

9. Section PM 602.3, Heat supply, is amended to read as follows:
   PM 602.3 Heat supply. Every owner and operator of any building who rents, leases or lets one (1) or more dwelling units, rooming units, dormitory or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply sufficient heat during the period from October 1 through May 15 to maintain a temperature of not less than 65° F. (18° C.) in all habitable rooms, bathrooms, and toilet rooms.

10. Section PM 602.4, Occupiable work spaces, is amended to read as follows:
    PM 602.4 Occupiable work spaces. Indoor occupiable work space shall be supplied with sufficient heat during the period from October 1 to May 15 to maintain a temperature of not less than 65° F. (18° C.) during the period the space is occupied.
    Exceptions:

~~1. Processing, storage, and operation areas that require cooling or special temperature conditions.~~

~~2. Areas in which persons are primarily engaged in vigorous physical activities.~~

Section 500.110 International Property Maintenance Code Adopted by Reference.

A The 2021 Edition of the International Property Maintenance Code, except as otherwise provided in this Chapter, as published by the International Code Council, Inc. is adopted by reference as the Property Maintenance Code of the City and made a part of this Section as if fully set forth herein.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Property Maintenance Code, it shall be deemed to mean the City.

C. Nothing in Sections 500.110 and 500.120 or in the Property Maintenance Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended as cited in Sections 500.110 and 500.120. No just or legal right or remedy of any character shall be lost, impaired, or affected by Sections 500.110 and 500.120.

D. One (1) copy of Sections 500.110 and 500.120, the 2021 Edition of the International Property Maintenance Code, and the proposed amendments have been on file in the City Clerk's Office at least ninety (90) days prior to the adoption of Sections 500.110 and 500.120.

Section 500.120 Amendments.

A. The code adopted by Section 500.110 is hereby amended as follows:

1. Section PM-101.1 Title is amended to read as follows:

Section PM-101.1 Title. These regulations shall be known as the Property Maintenance Code of the City of Foristell, Missouri, hereinafter referred to as "this code".

2. Section 103 Department of Property Maintenance Inspection is deleted.

3. Section PM-106.4 Violation penalties is deleted.

4. Sections PM-111.2 through PM-111.8 are hereby deleted.

5. The following Section is deleted:

PM-302.4, Weeds.

6. The following Section is deleted:

PM-302.8 Motor Vehicles.

7. Section PM-304.13 Window, skylight and door frames is amended by adding a new Subsection PM-304.13.3 which shall read as follows:

With the approval of the Building Commissioner, doors and windows in structures with broken, cracked or missing glazing material may be temporarily boarded up for a period not to exceed ninety days or for the term of any permit issued by the Building Department. After the expiration of such permit, or after ninety days when no permit is required, boarding on all doors and windows must be removed and doors and windows shall then contain glazing which is free from cracks and holes. In no event shall a door be boarded up which had no glazing as part of its composition. Upon failure of the owner to comply with this Section and by order of the Building Commissioner, the Building Commissioner after notice pursuant to Section PM-107 shall cause the installation of the appropriate glazing through any available public agency, or by contract or

arrangements by private parties and the cost thereof shall be charged against the real estate upon which the structure is located and shall be a lien upon such real estate.

8. Section PM-304.14 Insect screens is amended to read as follows:

Section PM-304.14 Insect screens. During the period from Aprill to November 1 every door, window and other outside opening required for ventilation of habitable rooms, food preparation areas, food service areas, or any areas where products to be included or utilized in food for human consumption are processed, manufactured, packaged or stored shall be supplied with approved tightly fitting screens of not less than 16 mesh per inch (16 mesh per 25 mm) and every swinging door shall have a self-closing device in good working condition.

Exception: Screen doors shall not be required where other approved means, such as air curtains or insect repellent fans, are employed.

9. Section PM-602.3 Heat Supply is amended to read as follows:

Section PM-602.3 Heat Supply. Every owner and operator of any building who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply sufficient heat during the period from October 1 through May 15 to maintain a temperature of not less than 65 degrees F. (18 degrees C.) in all habitable rooms, bathrooms, and toilet rooms.

10. Section PM-602.4 Occupiable workspaces is amended to read as follows:

Section PM-602.4 Occupiable workspaces. Indoor occupiable work space shall be supplied with sufficient heat during the period from October 1 to May 15 to maintain a temperature of not less than 65 degrees F. (18 degrees C.) during the period the space is occupied.

Exceptions:

1. Processing, storage and operation areas that require cooling or special temperature

conditions.

2. Areas in which persons are primarily engaged in vigorous physical activities.

11. Section 605.2.1 GFCI Receptacles and an exception is to be added and reads as follows:

605.2.1 GFCI Receptacles: Ground Fault circuit interrupter protect is required in all locations specified per NEC 210.8 (A) through (D).

Exception: Existing electrical systems with non-grounded wiring that has not been altered or replaced.

SECTION 4: Sections 500.130 and 500.140 of Chapter 500, Article VI, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.130 and 500.140 to read follows:

~~**Section 500.130. International Existing Building Code Adopted By Reference.**~~

~~A. The 2015 Edition of the International Existing Building Code, including Appendixes A and B, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Existing Building Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Existing Building Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.130** and **500.140** or in the Existing Building Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections **500.130 and 500.140.** No just or legal right or remedy of any character shall be lost, impaired, or affected by Sections **500.130 and 500.140.**~~

~~D. One (1) copy of Sections **500.130** and **500.140,** the 2015 Edition of the International Existing Building Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.130 and 500.140.**~~

~~**Section 500.140. Amendments.**~~

~~A. The code adopted by Section **500.130** is amended as follows:~~

~~1. Section 101.1, Title, is deleted and one never Section is enacted in lieu thereof which shall read as follows:~~

~~**101.1 Title.** These regulations shall be known as the "Existing Building Code of the City of Foristell, Missouri," hereinafter referred to as "this code."~~

NOTE: Struck through text is deleted. Underlined text is inserted.

~~2. Section 103, Department of Building Safety, is deleted.~~
~~3. Section 112, Board of Appeals, is deleted.~~
~~4. Section 113.4, Violations penalties, is hereby deleted.~~
~~5. Section 114, stop work order, is deleted.~~

Section 500.130 International Existing Building Code Adopted By Reference.

A. The 2021 Edition of the International Existing Building Code, including Appendixes A and B, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Existing Building Code of the City and made a part of this Section as if fully set forth herein.

B. Wherever the phrase *"Name of Jurisdiction"* appears in the 2021 Edition of the International Existing Building Code, it shall be deemed to mean the City.

C. Nothing in Sections 500.130 and 500.140 or in the Existing Building Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections 500.130 and 500.140. No just or legal right or remedy of any character shall be lost, impaired, or affected by Sections 500.130 and 500.140.

D. One (1) copy of Sections 500.130 and 500.140, the 2021 Edition of the International Existing Building Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.130 and 500.140.

Section 500.140 Amendments.

A. The code adopted by Section 500.130 is amended as follows:

1. Section 101.1 Title is deleted, and one new Section is enacted in lieu thereof which shall read as follows:

Section 101.1 Title. These regulations shall be known as the Existing Building Code of the City of Saint Charles, Missouri, hereinafter referred to as "this code".

2. Section 103 Department of Building Safety is deleted.

3. Section 112 Board of Appeals is deleted.

4. Section 113.4 Violations penalties is hereby deleted.

5. Section 114 Stop Work Order is deleted.

SECTION 5: Sections 500.150 and 500.160 of Chapter 500, Article VII, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.150 and 500.160 to read follows:

~~**Section 500.150. International Mechanical Code Adopted By Reference**~~

~~A. The 2015 Edition of the International Mechanical Code, including Appendix A, except as otherwise provided in this chapter, as published by the International Code Council, Inc., is adopted by reference as the Mechanical Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Mechanical Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.150** and **500.160** or in the Mechanical Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections **500.150** and **500.160**. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections **500.150** and **500.160**.~~

~~D. One (1) copy of Sections **500.150** and **500.160**, the 2015 Edition of the International Mechanical Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.150 and 500.160.~~

~~**Section 500.160. Amendments.**~~

~~A. The code adopted by Section **500.150** is amended as follows:~~

~~1. Section 101.1, Title, is amended to read as follows:~~

~~**101.1 Title.** These regulations shall be known as the "Mechanical Code of the City of Foristell, Missouri," hereinafter referred to as "this code."~~

~~2. Section 101.2.2, Appendix A is added: Section 101.2.2, Appendix. Appendix A is adopted.~~

~~3. Section 103 is deleted.~~

~~4. Section 106.1, Permits when required, is amended to read as follows:~~

NOTE: Struck through text is deleted. Underlined text is inserted.

~~**106.1 Permits when required.** An owner, authorized agent or contractor who desires to erect, install, enlarge, alter, repair, remove, convert or replace a mechanical system, the installation of which is regulated by this code, or to cause such work to be done, shall make application to the Code Official and obtain the required permit for the work.~~

~~**Exception:** Where equipment replacements and repairs must be performed in an emergency situation, permit application shall be made within the next working business day of the Building Department.~~

~~5. Section 106.3, Application for permit, is deleted and one new Section is enacted as follows:~~
~~**106.3 Application for permit.** Each application for a permit shall be made to the Code Official and include a general description of the proposed work and its location.~~
~~6. Section 106.4, Permit issuance, is amended to read as follows:~~
~~**106.4 Permit issuance.** The application, construction documents and other data filed by an applicant for a permit shall be reviewed by the Code Official. If the Code Official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified elsewhere in this code have been paid, a permit shall be issued to the applicant.~~

7. Section 106.4.3, Expiration, is deleted.
8. Section 106.4.4, Extensions, is deleted.
9. Sections 106.5, 106.5.1, 106.5.2 and 106.5.3, Fees, are deleted.
10. Section 108.4, Violation penalties, is deleted.
11. Section 108.5, Stop work orders, is deleted.
12. Section 108.6, Abatement of violation, is deleted.
13. Sections 109.2 through 109.7, Membership of board, are deleted.
14. Section 805.1, Factory built chimneys listing, is amended to read as follows:
805.1 Listing. Factory built chimneys shall be listed and labeled and shall be installed and terminated in accordance with the manufacturer's installation instructions. The flue chase for a factory-built chimney shall have a minimum of one (1) thickness of five eighths inch Type X drywall or its equivalent extending to the roof sheathing of the structure applied to the inside of every portion of the flue chase that abuts a structure. All joints are to be tight within one eighth (1/8) inch or taped with a layer of joint compound. Required clearances shall be maintained between chimney and the gypsum board per the chimney manufacturer's specifications.
15. A new section 903.1.2, Required fire separation enclosures, is added to section 903 to read as follows:

903.1.2 Required fire separation enclosures. All prefabricated metal chimneys shall be enclosed in a shaft with one (1) layer of five eighths inch Type X gypsum board or equivalent from the fireplace connector to the underside of the roof sheathing securely attached with framing material. When the chimney is located on the exterior of the structure, it need only be separated by lining the exterior wall adjacent to the shaft by one layer of five eighths inch Type X gypsum board or equivalent. All joints are to be tight within one eighth (1/8) inch or taped with a layer of joint compound. Required clearances shall be maintained between chimney and the gypsum board per the chimney manufacturer's specifications.

Section 500.150 International Mechanical Code Adopted By Reference.

A. The 2021 Edition of the International Mechanical Code, including Appendix A, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Mechanical Code of the City and made a part of this Section as if fully set forth herein.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Mechanical Code, it shall be deemed to mean the City.

C. Nothing in Sections 500.150 and 500.160 or in the Mechanical Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections 500.150 and 500.160. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.150 and 500.160.

D. One (1) copy of Sections 500.150 and 500.160, the 2021 Edition of the International Mechanical Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.150 and 500.160.

Section 500.160 Amendments.

A. The code adopted by Section 500.150 is amended as follows:

1. Section 101.1 Title is amended to read as follows:

Section 101.1 Title. These regulations shall be known as the Mechanical Code of the City of Saint Charles, Missouri, hereinafter referred to as "this code".

2. Section 101.2.2 Appendix A is added:

Section 101.2.2 Appendix A. Appendix A is adopted.

3. Section 103 is deleted.

4. Section 106.1 Permits-When Required is amended to read as follows:

Section 106.1 Permits-when required. An owner, authorized agent or contractor who desires to erect, install, enlarge, alter, repair, remove, convert or replace a mechanical system, the installation of which is regulated by this code, or to cause such work to be done, shall make application to the Code Official and obtain the required permit for the work.

Exception: Where equipment replacements and repairs must be performed in an emergency situation, permit application shall be made within the next working business day of the Building Department.

5. Section 106.3 Application for Permit is deleted and one new Section is enacted as follows:

Section 106.3 Application for permit. Each application for a permit shall be made to the Code Official and include a general description of the proposed work and its location.

6. Section 106.4 Permit Issuance is amended to read as follows:

Section 106.4 Permit issuance. The application, construction documents and other data filed by an applicant for a permit shall be reviewed by the Code Official. If the Code Official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified elsewhere in his code have been paid, a permit shall be issued to the applicant.

7. Section 106.4.3 Expiration is deleted.

8. Section 106.4.4 Extensions is deleted.

9. Sections 106.5, 106.5.1, 106.5.2 and 106.5.3 Fees are deleted.

10. Section 108.4 Violation Penalties is deleted.

11. Section 108.5 Stop Work Orders is deleted.

12. Section 108.6 Abatement of Violation is deleted.

13. Sections 109.2 through 109.7 Membership of Board are deleted.

14. Section 805.1 Factory-Built Chimneys-Listing is amended to read as follows:

Section 805.1 Listing. Factory-built chimneys shall be listed and labeled and shall be installed and terminated in accordance with the manufacturer's installation instructions. The flue chase for a factory-built chimney shall have a minimum of one thickness of five-eighths inch type "X" drywall or its equivalent extending to the roof sheathing of the structure applied to the inside of every portion of the flue chase that abuts a structure. All joints are to be tight within one-eighth of an inch or taped with a layer of joint compound. Required clearances shall be maintained between chimney and the gypsum board per chimney manufacturer's specifications.

15. A new Section 903.1.2 Required Fire Separation Enclosures is added to Section 903 to read as follows:

Section 903.1.2 Required fire separation enclosures. All prefabricated metal chimneys shall be enclosed in a shaft with one layer of five-eighths inch type "X" gypsum board or equivalent from the fireplace connector to the underside of the roof sheathing securely attached with framing material. When the chimney is located on the exterior of the structure, it need only be separated by lining the exterior wall adjacent to the shaft by one layer of five-eighths inch type "X" gypsum board or equivalent. All joints are to be tight within one-eighth of an inch or taped with a layer of joint compound. Required clearances shall be maintained between chimney and the gypsum board per chimney manufacturer's specifications.

SECTION 6: Sections 500.170 and 500.180 of Chapter 500, Article VIII, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.170 and 500.180 to read follows:

~~**Section 500.170. International Fuel Gas Code Adopted By Reference.**~~

~~A. The 2015 Edition of the International Fuel Gas Code, including Appendixes A, B, C and D, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Fuel Gas Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Fuel Gas Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.170** and **500.180** or in the Fuel Gas Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections **500.170** and **500.180**. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections **500.170** and **500.180**.~~

~~D. One (1) copy of Sections **500.170** and **500.180**, the 2015 Edition of the International Fuel Gas Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.170** and **500.180**.~~

~~**Section 500.180. Amendments.**~~

~~A. The code adopted by Section **500.170** is amended as follows:~~

~~1. Section 101.1, Title, is amended to read as follows:~~

~~**101.1 Title.** These regulations shall be known as the "Fuel Gas Code of the City of Foristell, Missouri," hereinafter referred to as "this code."~~

~~2. Section 103 is deleted.~~

~~3. Sections 106.6, 106.6.1, 106.6.2 and 106.6.3 are deleted.~~

~~4. Section 108.4, Violation penalties, is deleted.~~

~~5. Section 108.5, Stop work orders, is deleted.~~

~~6. Section 108.6, Abatement of violation, is deleted.~~

~~7. Section 109, Means for appeal, is deleted.~~

Section 500.170 International Fuel Gas Code Adopted By Reference.

A. The 2021 Edition of the International Fuel Gas Code, including Appendixes A, B, C and D, except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Fuel Gas Code of the City and made a part of this Section as if fully set forth herein.

NOTE: Struck through text is deleted. Underlined text is inserted.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Fuel Gas Code, it shall be deemed to mean the City.

C. Nothing in Sections **500.170** and **500.180** or in the Fuel Gas Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended by Sections **500.170** and **500.180**. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections **500.170** and **500.180.**

D. One (1) copy of Sections **500.170** and **500.180**, the 2021 Edition of the International Fuel Gas Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.170** and **500.180**

Section 500.180 Amendments.

A. The code adopted by Section 500.170 is amended as follows:

1. Section 101.1 Title is amended to read as follows:

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

2. Section 103 is deleted.

3. Sections 106.6, 106.6.1, 106.6.2 and 106.6.3 are deleted.

4. Section 108.4 Violation Penalties is deleted.

5. Section 108.5 Stop Work Orders is deleted.

6. Section 108.6 Abatement of Violation is deleted.

7. Section 109 Means for appeal is deleted.

SECTION 7: Sections 500.190 and 500.200 of Chapter 500, Article IX, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.190 and 500.200 to read follows:

Section 500.190. National Electrical Code Adopted By Reference.

~~A. The 2014 Edition of the National Electrical Code, including Annex H, except as otherwise provided in this Chapter, as published by the National Fire Protection Association, Inc., is adopted by reference as the Electrical Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. All electrical installations in this City shall be in accordance with the Electrical Code of the City, and no installation or alteration of electrical equipment shall be made for light, heat, or power in any building in this City until and unless the installation of the electric wiring therein and thereto shall conform to the requirements of such Electrical Code or as near as practical in the protection from danger of fire and other electrical hazards.~~

~~C. Nothing in Sections **500.190** and **500.200** and the Electrical Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended or by Sections **500.190** and **500.200**. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.190 and 500.200.~~

~~D. One (1) copy of Sections **500.190** and **500.200**, the 2014 Edition of the National Electrical Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.190** and **500.200**.~~

~~**Section 500.200. Amendments.**~~

~~A. The code adopted by Section **500.190** is amended as follows:~~

~~1. Article 80.1, Scope, is amended to read as follows:~~

~~**80.1 Scope.** The following functions are covered:~~

~~(1) The inspection of electrical installations as covered by 90.2.~~

~~(2) (Reserved)~~

~~(3) The review of construction plans, drawings, and specifications for electrical systems.~~

~~(4) The design, alteration, modification, construction, maintenance, and testing of electrical systems and equipment.~~

~~(5) The regulation and control of electrical installations at special events, including but not limited to exhibits, trade shows, amusement parks, and other similar special occupancies.~~

~~2. Article 80.5, Adoption, is amended to read as follows:~~

~~**80.5 Adoption.** Article 80 is adopted.~~

~~3. Article 80.13, Authority (13), is amended to read as follows:~~

~~(13) Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the authority having jurisdiction shall be permitted to require that such work be exposed for inspection. The authority having jurisdiction shall be notified when the installation is ready for inspection and shall conduct the inspection within two (2) business days.~~

~~4. Article 80.15, Electrical Board, is deleted and one new Section is enacted in lieu thereof to read as follows:~~

~~**80.15(A) Creation of the Electrical Board.** The Board of Appeals shall be the Electrical Board, hereinafter designated as the "Board."~~
~~80.15 (B), (C), (D), (E), and (F) are deleted.~~
~~**80.15(G) Appeals**~~
~~(1) Review of decisions. Any person, firm, or corporation may register an appeal with the Board for a review of any decision of the Electrical inspector, provided that such appeal is made in writing within twenty (20) days after such person, firm, or corporation shall have been notified. Upon receipt of such appeal, said Board shall, if requested by the person making the appeal, hold a public hearing and proceed to determine whether the action of the Board or the Electrical inspector complies with this law and, within twenty (20) days after receipt of the appeal or after holding the hearing, shall make a decision in accordance with its findings.~~

~~(2) Conditions. Any person shall be permitted to appeal a decision of the authority having jurisdiction to the Board 1tvhen it is claimed that any one (2) or more of the following conditions exist:~~
~~a. The true intent of the codes or ordinances described in this Code has been incorrectly interpreted.~~
~~b. The provisions of the codes or ordinances do not fully apply.~~
~~c. A decision is unreasonable or arbitrary as it applies to alternatives or new materials.~~
~~(3) Submission of appeals. A written appeal, outlining the Code provision from which relief is sought and the remedy proposed, shall be submitted to the authority having jurisdiction within twenty (20) calendar days of notification of violation.~~
~~5. Article 80.23(B), Penalties, is deleted.~~
~~6. Article 80.27, Inspector's qualifications, is deleted.~~
~~7. Article 80.35, Effective date, is amended as follows:~~
~~**80.35 Effective date:** Article 80 shall take effect immediately after its passage and publication.~~

Section 500.190 National Electrical Code Adopted By Reference.

A. The 2020 Edition of the National Electrical Code, including Annex H, except as otherwise provided in this Chapter, as published by the National Fire Protection Association, Inc. is adopted by reference as the Electrical Code of the City and made a part of this Section as if fully set forth herein.

B. All electrical installations in this City shall be in accordance with the Electrical Code of the City, and no installation or alteration of electrical equipment shall be made for light, heat, or power in any building in this City until and unless the installation of the electric wiring

therein and thereto shall conform to the requirements of such Electrical Code or as near as practical in the protection from danger of fire and other electrical hazards.

C. Nothing in Sections 500.190 and 500.200 and the Electrical Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended or by Sections 500.190 and 500.200. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.190 and 500.200.

D. One (1) copy of Sections 500.190 and 500.200, the 2020 Edition of the National Electrical Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.190 and 500.200.

Section 500.200 Amendments.

A. The code adopted by Section 500.190 is amended as follows:

1. Annex H 80.1 Scope is amended to read as follows:

Annex H *80.2 Scope.* The following functions are covered:

(1) The inspection of electrical installations as covered by section 90.2.

(2) (Reserved)

(3) The review of construction plans, drawings, and specifications for electrical systems.

(4) The design, alteration, modification, construction, maintenance, and testing of electrical systems and equipment.

(5) The regulation and control of electrical installations at special events including but not limited to exhibits, trade shows, amusement parks, and other similar special occupancies.

2. Annex H 80.5 Adoption is amended to read as follows:

Annex H *80.5 Adoption.* Article 80 is adopted.

3. Annex H 80.13 Authority (13) is amended to read as follows:

(13) Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the authority having jurisdiction shall be permitted to require that such work be exposed for inspection. The authority having jurisdiction shall be notified when the installation is ready for inspection and shall conduct the inspection within two (2) business days.

4. Annex H 80.15 Electrical Board is deleted, and one new Section is enacted in lieu thereof to read as follows:

80.15(A) *Creation of the Electrical Board.* The Board of Appeals shall be the Electrical Board, hereinafter designated as the Board.

80.15 (B), (C), (D), (E), and (F) are deleted.

80.15(G) Appeals.

(1) *Review of decisions.* Any person, finn, or corporation may register an appeal with the Board for a review of any decision of the electrical inspector, provided such appeal is made in writing within twenty (20) days after such person, firm, or corporation shall have been notified. Upon receipt of such appeal, said Board shall, if requested by the person making the appeal, hold a public hearing and proceed to determine whether the action of the Board, or the electrical inspector complies with this law and, within twenty (20) days after receipt of the appeal or after holding the hearing, shall make a decision in accordance with its findings.

(2) *Conditions.* Any person shall be permitted to appeal a decision of the authority

NOTE: Struck through text is deleted. Underlined text is inserted.

having jurisdiction to the Board when it is claimed that any one or more of the following conditions exist:

a. The true intent of the codes or ordinances described in this Code has been incorrectly interpreted.

b. The provisions of the codes or ordinances do not fully apply.

c. A decision is unreasonable or arbitrary as it applies to alternatives or new materials.

(3) *Submission of appeals.* A written appeal, outlining the Code provision from which relief is sought, and the remedy proposed, shall be submitted to the authority having jurisdiction within twenty (20) calendar days of notification of violation.

5. Annex H 80.23(8) Penalties is deleted.

6. Annex H 80.27 Inspector's Qualifications is deleted.

7. Annex H 80.35 Effective Date is amended as follows:

80.35 Effective date. Article 80 shall take effect immediately after its passage and publication.

8. 210.8(A) (2) Garage and accessory building receptacles, is amended to read as follows:

210.8(A) (2) Garage and accessory building receptacles 125-volt, single-phase, 15- or 20-ampere receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protection for personnel. [210.8(A) (2)]

Exception:

Garage door opener receptacles not installed in a readily accessible location.

NOTE: Struck through text is deleted. Underlined text is inserted.

9. 210.S(A) (5) Basement, is amended to read as follows:

210.8(A) (5) **Unfinished basement receptacles:** 125-volt, single-phase, 15- and 20-ampere receptacles installed in unfinished basements shall have ground-fault circuit-interrupter protection for personnel. For purposes of this section, unfinished basements are defined as portions or areas of the basement not intended as habitable rooms and limited to storage areas, work areas, and similar areas. [210.8(A) (5)]

Exception:

1. A receptacle supplying only a permanently installed fire alarm or burglar alarm system. Receptacles installed in accordance with this exception shall not be considered as meeting the requirement of [210.8(A)(5) Exception]
2. Fastened in place appliances or Single plugged receptacle designated for refrigerators/freezers.
3. Sump pump: sump pump receptacles must be a single dedicated outlet (not a duplex) and only when a sump pump has been installed.

10. 210.8 (A) (6) Kitchen receptacles is amended to add an exception to read as follows:

Exception: Fastened in place appliances or outlets designated for refrigerators/freezers.

11. 210.8 (A) (10) Laundry areas is amended to read as follows:

210.8 (A) (10) Laundry areas 125-volt, single-phase, 15- and 20-ampere receptacles installed in laundry areas shall have ground-fault circuit interrupter protection for personnel. [210.8(A) (10)]

12. 210.8 (A) (10) Kitchen dishwater branch circuit is deleted.

13. 210.12 (A) Arc-fault circuit interrupter protection is amended to read asfollows:

210.12 (A) **Arc-fault circuit-interrupter protection.** Branch circuits that

NOTE: Struck through text is deleted. Underlined text is inserted.

supply 120-volt, single phase, 15- and 20-ampere outlets installed in, kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways, laundry areas and similar rooms or areas shall be protected by any of the following: [210.12(A)]

1. A *listed* combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit. [210.12(A) (1)]

2. A *listed* branch/feeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit. [210.12(A)

3. A *listed* supplemental arc-protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit type arc-fault circuit- interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:

   a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.

   b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors.

   c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet on the circuit. [210.12(A)(3)]

4. A *listed* outlet branch-circuit-type arc-fault circuit interrupter installed at

NOTE: Struck through text is deleted. Underlined text is inserted.

the first outlet on the branch circuit in combination with a *listed* branch-circuit overcurrent protective device where all of the following conditions are met:

a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.

b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors.

c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet on the circuit.

d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be *listed* as such. [210.12(A)(4)]

5. Where metal raceways, metal wireways, metal auxiliary gutters or Type MC or Type AC cable meeting the applicable requirements of 250.118 with metal boxes, metal conduit bodies and metal enclosures are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a listed outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit. [210.12(A) (5)]

6. Where a *listed* metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 2 inches (50.8 mm) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a listed outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing

protection for the remaining portion of the branch circuit. [210.12(A) (6)]

Exception:

- AFCI protection shall not be required for an individual branch circuit supplying a fire alarm system where the branch circuit isinstalled in a metal raceway, metal auxiliary gutter, steel-armored cable, Type MC or Type AC, meeting the requirements of 250.118, with metal boxes, conduit bodies and enclosures.
- AFCI protection shall not be required for all kitchen countertop receptacles, laundry receptacles and/or other already required GFCI protected outlets.

14. Section 230.67 surge protection is to be deleted

15. Section 230.85 Emergency disconnects is to be deleted

SECTION 8: Sections 500.240 and 500.250 of Chapter 500, Article X, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.240 and 500.250 to read follows:

~~**Section 500.240. International Plumbing Code Adopted By Reference.**~~

~~A. The 2015 Edition of the International Plumbing Code, including Appendixes B, C, D, and E except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Plumbing Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Plumbing Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.240** and **500.250** or in the Plumbing Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended as cited in Sections **500.240** and **500.250**. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections **500.240** and **500.250**.~~

~~D. One (1) copy of Sections **500.240** and **500.250**, the 2015 Edition of the International Plumbing Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.240** and **500.250**.~~

~~**Section 500.250. Amendments.**~~

~~A. The code adopted by Section **500.240** is amended to read as follows:~~

NOTE: Struck through text is deleted. Underlined text is inserted.

1. Section 101.1, Title, is amended to read as follows:

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

2. Section 101.2, Scope, is amended to read as follows:

   101.2 Scope. The provisions of this code shall apply to the creation, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall also regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel gas fired water heaters and water heater venting systems shall be regulated by the International Fuel Gas Code.

   Exceptions:

   1. Detached one- and two-family dwellings and multiple one-family dwellings (townhouses) not more than three (3) stories high with separate means of egress and their accessory structures shall comply with the International Residential Code.
   2. Plumbing systems in existing buildings undergoing repair, alteration, or additions, and change of occupancy shall be permitted to comply with the International Existing Building Code.
   3. Sections 103.1 through 103.4 are deleted.
   4. Sections 106.6, 106.6.1, 106.6.2, and 106.6.3 are deleted.
   5. Section 108.4, Violation penalties, is deleted.
   6. Section 108.5, Stop work orders, is deleted.
   7. Section 108.6, Abatement of violation, is deleted.
   8. Section 109.1, Application for appeal, is deleted.
   9. Section 109, Means of appeal, is deleted.
   10. Section 305.4.1, Sewer depth, is amended to read as follows:

       305.4.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of thirty (30) inches (762 mm) below finished grade at the point of septic tank connection. Building sewers shall be a minimum of thirty (30) inches (762 mm) below grade.

   11. Section 403.2, Separate facilities, shall have the following exception amended to read as follows:

       2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of thirty (30) or less.

   12. Section 410.1, Approval, is amended to include the following exception:

       Exception: Occupancies with an occupant load of less than fifty (50) people shall be permitted to provide an approved bottled water dispenser in lieu of the required drinking fountain.

   13. Section 701.2, Sewer required, is hereby amended to read as follows:

       701.2 Sewer required. Every building in which plumbing fixtures are installed and all premises having drainage piping shall be connected to a public sewer, where available, or an approved private sewage disposal system in accordance with the International Private Sewage Disposal Code. A public water main or public sewer system shall be considered available to a building when the building is located within two hundred (200) feet of the public water main or sewer.

Section 500.240 International Plumbing Code Adopted By Reference.

A. The 2021 Edition of the International Plumbing Code, including Appendixes B, C, D and E except as otherwise provided in this Chapter, as published by the International Code Council, Inc., is adopted by reference as the Plumbing Code of the City and made a part of this Section as if fully set forth herein.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Plumbing Code, it shall be deemed to mean the City.

C. Nothing in Sections 500.240 and 500.250 or in the Plumbing Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended as cited in Sections 500.240 and 500.250. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.240 and 500.250.

D. One (1) copy of Sections 500.240 and 500.250, the 2021 Edition of the International Plumbing Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.240 and 500.250.

Section 500.250 Amendments.

A. The code adopted by Section 500.240 is amended to read as follows:

1. Section 101.1 Title is amended to read as follows:

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

NOTE: Struck through text is deleted. Underlined text is inserted.

2. Section 101.2 Scope is amended to read as follows:

Section 101.2 Scope. The provisions of this code shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall also regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel gas-fired water heaters and water heater venting systems shall be regulated by the International Fuel Gas Code.

Exceptions:

1. Detached one- and two-family dwellings and multiple one-family dwellings (town houses) not more than three stories high with separate means of egress and their accessory structures shall comply with the International Residential Code.
2. Plumbing systems in existing buildings undergoing repair, alteration, or additions, and change of occupancy shall be permitted to comply with the International Existing Building Code.

3. Sections 103.1 through 103.4 are deleted.

4. Sections 106.6, 106.6.1, 106.6.2, and 106.6.3 are deleted.

5. Section 108.4 Violation Penalties is deleted.

6. Section 108.5 Stop Work Orders is deleted.

7. Section 108.6 Abatement of Violation is deleted.

8. Section 109.1 Application for appeal is deleted.

9. Section 109 Means of Appeal is deleted.

NOTE: Struck through text is deleted. Underlined text is inserted.

10. Section 305.4.1 Sewer Depth is amended to read as follows:

Section 305.4.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 30 inches (762 mm) below finished grade at the point of septic tank connection. Building sewers shall be a minimum of30 inches (762 mm) below grade.

11. Section 403.2 Separate facilities shall have the following exception amended to read as follows:

    2. Separate facilities shall not be required in structures or tenant spaces with total occupant load, including both employees and customers, of 30 or less.

12. Section 410.1 Approval is amended to include the following exception:

Exception: Occupancies with an occupant load of less than 50 people shall be permitted to provide an approved bottled water dispenser in lieu of the required drinking fountain.

13. Section 701.2 Sewer required is hereby to read as follows:

Section 701.2 Sewer required. Every building in which plumbing fixtures are installed and all premises having drainage piping shall be connected to a public sewer, where available, or an approved private sewage disposal system in accordance with the International Private Sewage Disposal Code. A public water main or public sewer system shall be considered available to a building when the building is located within 200 feet of the public water main or sewer.

NOTE: Struck through text is deleted. Underlined text is inserted.

SECTION 9: Sections 500.276 and 500.277 of Chapter 500, Article XA, of the Code of Ordinances of the City of St. Charles are hereby amended by repealing them in their entirety and replaced with new Sections 500.276 and 500.277 to read follows:

~~**Section 500.276. International Swimming Pool and Spa Code Adopted By Reference**~~

~~A. The 2015 Edition of the International Swimming Pool and Spa Code, as published by the International Code Council, Inc., is adopted by reference as the Swimming Pool and Spa Code of the City and made a part of this Section as if fully set forth herein.~~

~~B. Wherever the phrase "Name of Jurisdiction" appears in the 2015 Edition of the International Swimming Pool and Spa Code, it shall be deemed to mean the City.~~

~~C. Nothing in Sections **500.276** and **500.277** or in the Swimming Pool and Spa Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended as cited in Sections **500.276** and **500.277**. No just or legal right or remedy of any character shall be lost, impaired, or affected by Sections **500.276** and **500.277**.~~

~~D. One (1) copy of Sections **500.276** and **500.277**, the 2015 Edition of the International Swimming Pool and Spa Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections **500.276** and **500.277**.~~

~~Section 500.277. Amendments.~~

~~A. The code adopted by Section **500.276** is amended to read as follows:~~

~~1. Section 101.1, Title, is amended to read as follows:~~

~~**101.1 Title.** These regulations shall be known as the "Swimming Pool and Spa Code of the City of St. Charles, Missouri," hereinafter referred to as "this code."~~

~~2. Section 103 is deleted.~~

~~3. Sections 105.6, 105.6.1, 105.6.2 and 105.6.3 are deleted.~~

~~4. Section 107.4, Violation Penalties, is deleted.~~

~~5. Section 107.5, Stop work orders, is deleted.~~

~~6. Section 107.6, abatement of violation, is deleted.~~

~~7. Section 108, Means of Appeal, is deleted.~~

~~8. Section 307, General Design, is amended by adding a new subsection to be numbered Section 307.10 which shall read as follows:~~

~~**307.10. Swimming Pool and Spa Water Discharge.**~~

307.10.1 Dechlorination required. All swimming pool or spa water shall be dechlorinated before the water is discharged from the pool or spa into the sanitary sewer system or stormwater system. This section applies to a public, privately owned, subdivision owned or commercially owned swimming pool or spa.

~~**307.10.2. Water testing.** A Swimming pool or spa owner shall notify the Public Works Department Water Division before water is discharged from a swimming pool or spa into the sanitary sewer system or stormwater system. The Water Division shall test the water before the water is discharged. The water shall be dechlorinated to 2ug/L for cold water and 10 ug/L for warm water before the water is discharged.~~

~~**307.10.3. Permit required for discharge into sanitary sewer system; maximum discharge rate.**~~

NOTE: Struck through text is deleted. Underlined text is inserted.

~~An owner or operator of a swimming pool or spa with a water capacity of over one thousand (1,000) gallons who desires to discharge dechlorinated water into the sanitary sewer system shall first obtain a discharge permit from the Water Division. There is no cost for the discharge permit. The date, time and quantity of discharge shall be stated on the discharge permit to coordinate treatment at the Mississippi River or Missouri River Wastewater Treatment Plant. The water discharge rate into the sanitary sewer system shall not exceed five (5) gallons per minute or two (2) gallons per minute for discharge into the New Town at St. Charles sanitary sewer system.~~

~~**307.10.4. Discharge into stormwater system**. An owner or operator of a swimming pool or spa that desires to discharge water into the stormwater system shall direct the water to the street, a stormwater inlet on the owner's property, or stormwater ditch on the owner's property. The water shall be directed so as not to create a nuisance or hazard in the right of way, or not to erode, encroach upon, flow across or pond upon any adjoining property.~~

Section 500.276 International Swimming Pool and Spa Code Adopted By Reference.

A. The 2021 Edition of the International Swimming Pool and Spa Code, as published by the International Code Council, Inc., is adopted by reference as the Swimming Pool and Spa Code of the City and made a part of this Section as if fully set forth herein.

B. Wherever the phrase "Name of Jurisdiction" appears in the 2021 Edition of the International Swimming Pool and Spa Code, it shall be deemed to mean the City.

C. Nothing in Sections 500.276 and 500.277 or in the Swimming Pool and Spa Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby amended as cited in Sections 500.276 and 500.277. No just or legal right or remedy of any character shall be lost, impaired or affected by Sections 500.276 and 500.277.

D. One (1) copy of Sections 500.276 and 500.277, the 2021 Edition of the International Swimming Pool and Spa Code, and the proposed amendments have been on file in the City Clerk's office at least ninety (90) days prior to the adoption of Sections 500.276 and 500.277.

Section 500.277 Amendments.

A. Section 101.1 Title is amended to read as follows:

1. Section 101.1 Title. These regulations shall be known as the Swimming Pool and Spa Code of the City of Foristell, Missouri, hereinafter referred to as "this code."

2. Section 103 is deleted.

3. Section 105.6, 105.6.1, 105.6.2 and 105.6.3 are deleted.

4. Section 107.4 Violation of Penalties is deleted.

5. Section 107.5 Abatement of violation is deleted.

6. Section 108 Means of Appeal is deleted.

7. Section 305.4 (1) Structure wall as barrier is amended to read as follows:

305.4Structure wall as a barrier.

(1) Bedroom egress windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor and doors and gates shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017.

SECTION 10. Any person who shall violate any provision of the building codes adopted in this ordinance or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a building or structure in violation of an approved plan of or directive of the Code Official, or of a permit or certificate issued under the provision of the Code of Ordinances of the City of Foristell, shall be guilty of an ordinance violation, punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment not exceeding three (3) months, or both such fine and imprisonment. Each day that a violation occurs continues after due notice has been served shall be deemed a separate offense.

SECTION 11. It is the intention of the City Council, and it is hereby ordained that the provisions of this ordinance shall become and be made a part of the Code of Ordinances of the City of Foristell, Missouri, and the sections of this ordinance maybe renumbered to accomplish such intention.

SECTION 12. This Ordinance shall be in full force and effect from and after the date of passage and approval.

NOTE: Struck through text is deleted. Underlined text is inserted.

Supplemental Information Regarding 2021 Code Update

Full list of Codes to be adopted:

2021 International Building Code

2021 International Residential Code for one- and two-family dwellings

2021 International Property Maintenance Code

2021 International Existing Building Code 2021 International Mechanical Code

2021 International Fuel and Gas Code

2020 National Electrical Code 2021 2021International Plumbing Code

2021 International Swimming Pool and Spa

Bill No. 03-24 **Ordinance No.901**

This ordinance shall be in full force and effect ninety (90) days after approval by the Board of Alderman and signed by the mayor.

READ TWO TIMES AND PASSED BY THE BOARD OF ALDERMEN OF THE CITY OF FORISTELL, MISSOURI, THIS 4TH DAY OF MARCH 2024.

Mark Meyerhoff, Mayor

Attest:

Sandra L. Stokes, City Clerk

APPROVED BY THE MAYOR OF THE CITY OF FORISTELL, MISSOURI THIS 4TH DAY OF MARCH 2024.

Mark Meyerhoff, Mayor

Attest:

Sandra L. Stokes, City Clerk