ORDINANCE NO. 19-XX

AN ORDINANCE PERTAINING TO THE OLATHE ENERGY CONSERVATION CODE; ADDING SECTIONS 15.16.031, 15.16.131, 15.16.215, AND 15.16.295; AMENDING OLATHE MUNICIPAL CODE SECTIONS 15.16.010, 15.16.020, 15.16.140, 15.16.220, 15.16.250, 15.16.260, 15.16.270, 15.16.280, AND 15.16.290 AND REPEALING THE EXISTING SECTIONS; ALSO REPEALING SECTIONS 15.16.040, 15.16.100, 15.16.120, 15.16.150, 15.16.170, 15.16.230, AND 15.16.240.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF OLATHE, KANSAS:

SECTION ONE: Section 15.16.010 of the Olathe Municipal Code is hereby amended to read as follows:

"**15.16.010 Code Adopted.**

The 2012 International Energy Conservation Code, published by the International Code Council, Inc., 4051 West Flossmoor Road, Country Club Hills, Illinois 60478~~-5795~~ is adopted by reference and made a part of this chapter as if fully set out, save and except such parts or portions thereof as are specifically deleted, added or changed in Sections 15.16.030 through and including 15.16.320."

SECTION TWO: Section 15.16.020 of the Olathe Municipal Code is hereby amended to read as follows:

"**15.16.020 Marked Copies of Code on File.**

There shall be not less than one (1) copy of the code adopted by reference in Section 15.16.010 kept on file in the office of the City Clerk, to which shall be attached a copy of the incorporating ordinance, and which shall be marked or stamped, "Official Copy as Incorporated by Ordinance No. ~~12-47~~ 19-XX with all sections or portions thereof intended to be omitted clearly marked to show any such deletion or change, and filed with the City Clerk and open to inspection and available to the public at all reasonable hours. ~~The Fire Department, Municipal Judges and all administrative departments of the City charged with the enforcement of the incorporating ordinance shall be supplied, at the cost of the City, such number of official copies of such standard ordinance similarly marked, deleted and changed as may be deemed expedient.~~"

SECTION THREE: Section 15.16.031 is hereby added to the Olathe Municipal Code and shall read as follows:

"**15.16.031 Section C101.1 Amended – Title.**

Section C101.1 of the International Energy Conservation Code is hereby amended and shall read as follows:

C101.1 Title. The 2012 International Energy Conservation Code and the deletions, changes, and additions contained in the Olathe Municipal Code, Chapter 15.16 shall be known as the Energy Code of the City of Olathe, Kansas, hereinafter referred to as "this code" or "the Energy Code.""

SECTION FOUR: Section 15.16.131 is hereby added to the Olathe Municipal Code and shall read as follows:

"**15.16.131 Section R101.1 Amended – Title.**

Section R101.1 of the International Energy Conservation Code is hereby amended and shall read as follows:

R101.1 Title. The 2012 International Energy Conservation Code and the deletions, changes, and additions contained in the Olathe Municipal Code, Chapter 15.16 shall be known as the Energy Code of the City of Olathe, Kansas, hereinafter referred to as "this code" or "the Energy Code.""

SECTION FIVE: Section 15.16.140 of the Olathe Municipal Code is hereby amended to read as follows:

"15.16.140 Section R101.2 Exception Added – Scope.

Section R101.2 Exception is hereby added to the International Energy Conservation Code and shall read as follows:

R101.2 Scope.

Exception: ~~Residential structures certified to meet or exceed the energy efficiency standards of the 2009 International Energy Conservation Code through a simulated energy performance analysis conducted by a nationally certified energy auditor (for example, a HERS rating of 85 or lower) shall be exempted from the requirements of this code. The energy auditor shall present their national certification credentials for review and approval by the Building Official prior to issuance of the permit, and no Certificate of Occupancy shall be issued for the structure until documentation from the auditor certifying 2009 International Energy Conservation Code performance compliance is submitted to and approved by the Building Official.~~ The energy efficiency of detached one-and two-family dwellings and townhouses not more than three (3) stories above grade plane in height shall be governed by the provisions of the International Residential Code as adopted in Municipal Code Chapter 15.04."

SECTION SIX: Section 15.16.215 is hereby added to the Olathe Municipal Code and shall read as follows:

"**15.16.215 Section 401.2 Amended – Compliance.**

Section R401.2 of the International Energy Conservation Code is amended to read as follows:

R401.2 Compliance. Projects shall comply with one of the following. The permit applicant of record shall elect which compliance path will be followed at the time the permit application is made.

1. Sections R401 through R404.

2. Section R405 and the provisions of Sections R401 through R404 indicated as "mandatory."

3. The energy rating index (ERI) approach in Section R406.

R401.2.1 Home energy rating system (HERS).

The ERI Index rating option can be satisfied by utilizing a HERS rater and constructing a residence that scores 80 or less on the HERS Index. All HERS ratings shall be performed by a rater accredited by the Residential Energy Services Network (RESNET/ICC). The final HERS certificate which indicates that the dwelling unit achieve a compliant HERS Index score must be submitted to the City before a Certificate of Occupancy will be issued. The final HERS certificate shall identify the project address and include the HERS raters name and contact information.

Exception: Equivalent ERI ratings as approved by the Building Official."

SECTION SEVEN: Section 15.16.220 of the Olathe Municipal Code is hereby amended to read as follows:

"15.16.220 Table R402.1.1 Amended – Insulation and Fenestration Requirements by Component.

Table R402.1.1 of the International Energy Conservation Code is hereby amended to read as follows:

TABLE R402.1.1

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

Climate Zone	Fenestration U-Factor [b]	Skylight [b] U-Factor	Glazed Fenestration SHGC[b]	Ceiling[g] R-Value	Wood Frame Wall R-Value	Mass Wall R-Value[f]	Floor R-Value	Basement Wall R-Value[c]	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
4	0.~~35~~ 32	0.55	0.4	49	13	13-Aug	19	13-Oct	NR	13-Oct

For SI: 1 foot = 304.8 mm.

NR = Not Required

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 that the R-value specified in the table.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. “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 walls.

d. R-5 shall be added to the required slab edge R-values for heated slabs.

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

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

g. Loose-fill insulation shall be installed at the rate recommended by the manufacturer’s statement “so many bags per 1,000 sq ft.” Where the pitch of the roof restricts the “minimum thickness” at the exterior wall line, the insulation shall be blown into the cavity so as to achieve a greater compacted density to a point where the “minimum thickness” can be achieved. An alternative is to install high-density batts around the perimeter edge per R402.2.”

SECTION EIGHT: Section 15.16.250 of the Olathe Municipal Code is hereby amended to read as follows:

“**15.16.250 Subsection R402.4.1.2 Amended – Testing.**

Subsection R402.4.1.2 of the International Energy Conservation Code is hereby amended to read as follows:

R402.4.1.2 Testing. Where required by the Building Official, the building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour. Testing shall be conducted

with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). ~~Where required by the Building Official,~~ ~~tT~~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 Building 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 weather stripping 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; and

6. Supply and return registers, if installed at the time of the test, shall be fully open."

SECTION NINE: Section 15.16.260 of the Olathe Municipal Code is hereby amended to read as follows:

"**15.16.260 Subsection R403.2.2 Amended – Sealing (Mandatory).**

Subsection R403.2.2 of the International Energy Conservation Code is hereby amended to read as follows:

R403.2.2 Sealing (Mandatory). Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with Section M1601.4.1 of the International Residential Code for One- and Two-Family Dwellings, as adopted by the City in accordance with Chapter 15.04 of the Olathe Municipal Code.

Exceptions:

1. Air-impermeable spray foam products 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. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than two inches (2") of water column (500 Pa) pressure classification shall not require additional closure systems.

R403.2.2.1 Duct Testing. Where required by the Code Official, duct tightness shall be verified by either of the following:

~~1. Postconstruction test: Total leakage shall be less than or equal to 4 cfm (113.3L/min) per 100 square feet (9.29 m2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including 44 the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.~~

~~2. Rough-in test: Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 ft2 square feet (9.29 m2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 square feet (9.29m2) of conditioned floor area.~~

1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. Registers shall be taped or otherwise sealed during the test.

2. Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

~~Exceptions:~~

~~1. The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.~~

~~2. On the postconstruction test, it is permissible to test for "leakage to the outdoors" versus a "total leakage." Leakage to the outdoors shall be less than or equal to 8 cfm per 100 square feet of conditioned floor area.~~

Exceptions:

1. A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.

2. A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.

R403.2.2.2 Duct leakage (Prescriptive). The total leakage of the ducts, where measured in accordance with Section R403.3.3, shall be as follows:

1. Rough-in test: The total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m2) of conditioned floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3 cubic feet per minute (85 L/min) per 100 square feet (9.29 m2) of conditioned floor area.

2. Postconstruction test: Total leakage shall be less than or equal to 4 cubic feet per minute {113.3 L/min) per 100 square feet (9.29 m2) of conditioned floor area. On the postconstruction test, it is permissible to test for "leakage to the outdoors" versus a "total leakage." Leakage to the outdoors shall be less than or equal to 8 cfm per 100 square feet of conditioned floor area.

R403.2.2.3 Sealed air handler. Air handlers shall have a manufacturer's designation for an air leakage of no more than 2 percent of the design air flow rate when tested in accordance with ASHRAE 193.

~~1. Postconstruction test: Total leakage shall be less than or equal to 4 cfm (113.3L/min) per 100 square feet (9.29 m2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g.(25 Pa) across the entire system, including 44 the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.~~

~~2. Rough in test: Total leakage shall be less than or equal to 4 cfm (113.3L/min) per 100 ft2 square feet (9.29 m2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm(85 L/min) per 100 square feet (9.29m2) of conditioned floor area.~~

~~Exceptions:~~

~~1. The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.~~

~~2. On the postconstruction test, it is permissible to test for "leakage to the outdoors" versus a "total leakage." Leakage to the outdoors shall be less than or equal to 8 cfm per 100 square feet of conditioned floor area.~~"

SECTION TEN: Section 15.16.270 of the Olathe Municipal Code is hereby amended to read as follows:

"**15.16.270 Subsection R403.2.3 ~~Deleted~~ Amended– Building cavities (mandatory).**

Subsection R403.2.3 of the International Energy Conservation Code is hereby ~~deleted~~ amended to read as follows:

R403.2.3 Building cavities (Mandatory). Building framing cavities are permitted to be used as return air ducts or plenums."

SECTION ELEVEN: Section 15.16.280 of the Olathe Municipal Code is hereby amended to read as follows:

"**15.16.280 Subsection R403.4.2 ~~Deleted~~ Amended– Hot water pipe insulation (Prescriptive).**

Subsection R403.4.2 of the International Energy Conservation Code is hereby ~~deleted~~ amended to read as follows:

R403.4.2 Hot water pipe insulation (Prescriptive). Insulation for hot water piping with a thermal resistance, R-value, of not less than R-3 shall be applied to the following:

1. Piping located outside the conditioned space.

2. Piping located under a floor slab.

3. Buried piping."

SECTION TWELVE: Section 15.16.290 of the Olathe Municipal Code is hereby amended to read as follows:

"**15.16.290 Section R404~~.1~~ Amended – Lighting equipment (Mandatory).**

Section R404~~.1~~ of the International Energy Conservation Code is hereby deleted and replaced with a new Section R404 ~~amended~~ to read as follows:

SECTION R404

LIGHTING SYSTEMS (MANDATORY)

R404.1 Lighting equipment (mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights.

SECTION THIRTEEN: Section 15.16.295 is hereby added to the Olathe Municipal Code and shall read as follows:

"**15.16.295 Section R406 Added – Energy Rating Index Compliance Alternative.**

Section R406 is hereby added to the International Energy Conservation Code and shall read as follows.

SECTION R406

ENERGY RATING INDEX COMPLIANCE ALTERNATIVE

R406.1 Scope. This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis.

R406.2 Mandatory requirements. Compliance with this section requires that the provisions identified in Sections R401 through R404 indicated as "mandatory" and in Section R403.4.2 be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficients in Table 402.1.1 or 402.1.3 of the 2009 International Energy Conservation Code.

Exception: Supply and return ducts not completely inside the building thermal envelope shall be insulated to an R-value of not less than R-6.

R406.3 Energy rating index. The Energy Rating Index (ERI) shall be determined in accordance with RES-NET/ICC 301 except that the ERI reference design ventilation rate shall be in accordance with Equation 11-1.

(Equation 11-1) Ventilation rate, CFM = (0.01 × total square foot area of house) + [7.5 × (number of bedrooms + 1)]

Energy used to recharge or refuel a vehicle used for transportation on roads that are not on the building site shall not be included in the ERI reference design or the rated design.

R406.4 ERI-based compliance. Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to the appropriate value of 80 when compared to the ERI reference design. Where on-site renewable energy is included for compliance using the ERI analysis of Section R406.4, the building shall meet the mandatory requirements of Section R406.2, and the building thermal envelope shall be greater than or equal to the levels of efficiency and SHGC in Table N1102.1.2 or Table N1102.1.4. of the International Residential Code for One- and Two- Family Dwellings.

R406.5 Verification by approved agency. Verification of compliance with Section R406 shall be completed by an approved third party.

R406.6 Documentation. Documentation of the software used to determine the ERI and the parameters for the residential building shall be in accordance with Sections R406.6.1 through R406.6.3.

R406.6.1 Compliance software tools. Software tools used for determining ERI shall be Approved Software Rating Tools in accordance with RESNET/ICC 301.

R406.6.2 Compliance report. Compliance software tools shall generate a report that documents that the ERI of the rated design complies with Sections R406.3 and R406.4. The compliance documentation shall include the following information:

1. Address or other identification of the residential building.

2. An inspection checklist documenting the building component characteristics of the rated design. The inspection checklist shall show results for both the ERI reference design and the rated design and shall document all inputs entered by the user necessary to reproduce the results.

3. Name of individual completing the compliance report.

4. Name and version of the compliance software tool.

Exception: Where an otherwise identical building model is offered in multiple orientations, compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the four (north, east, south and west) cardinal orientations.

R406.6.3 Additional documentation. The code official shall be permitted to require the following documents:

1. Documentation of the building component characteristics of the ERI reference design.

2. A certification signed by the builder providing the building component characteristics of the rated design.

3. Documentation of the actual values used in the software calculations for the rated design.

R406.6.4 Specific approval. Performance analysis tools meeting the applicable sections of Section R406 shall be approved. Documentation demonstrating the approval of performance analysis tools in accordance with Section R406.6.1 shall be provided.

R406.6.5 Input values. Where calculations require input values not specified by Sections R402, R403, R404 and R405, those input values shall be taken from RESNET/ICC 301."

SECTION FOURTEEN: Existing sections 15.16.010, 15.16.020, 15.16.040, 15.16.100, 15.16.120, 15.16.140, 15.16.150, 15.16.170, 15.16.220, 15.16.230, 15.16.240, 15.16.250, 15.16.260, 15.16.270, 15.16.280, and 15.16.290 are hereby repealed.

SECTION FIFTEEN: This Ordinance shall take effect and be in force from and after its passage and publication as provided by law.

PASSED by the Governing Body this _____ day of _____, 2019.

SIGNED by the Mayor this _____ day of _____, 2019.

_____
Mayor

ATTEST:

_____
City Clerk

(SEAL)

APPROVED AS TO FORM:

_____
City Attorney

Publish one time and return one Proof of Publication to the City Clerk and one to the City Attorney.