ORDINANCE NO. 1779

AN ORDINANCE AMENDING THE CITY OF KELLER CODE OF ORDINANCES, BY AMENDING CHAPTER 4, BUILDINGS, ARTICLE I, BUILDING CODE, BY REPEALING SECTION 4-110, ADOPTION, SECTION 4-111, ADOPTION OF RESIDENTIAL BUILDING CODE, AND SECTION 4-112, ADOPTION OF ENERGY CONSERVATION CODE, IN THEIR ENTIRETY AND ADDING A NEW SECTION 4-110, SECTION 4-111, SECTION 4-112, AND SECTION 4-113; BY AMENDING CHAPTER 5, ELECTRICAL CODE, ARTICLE I, IN GENERAL, BY REPEALING SECTION 5-100, ADOPTION OF THE NATIONAL ELECTRICAL CODE, PARAGRAPH (A), AND SECTION 5-101, AMENDMENTS TO THE NATIONAL ELECTRICAL CODE, IN THEIR ENTIRETY AND ADDING A NEW SECTION 5-100, PARAGRAPH (A), AND SECTION 5-101; BY AMENDING CHAPTER 14, PLUMBING AND MECHANICAL CODE, ARTICLE I, PLUMBING CODE, BY REPEALING SECTION 14-100, PLUMBING CODE, SECTION 14-110, DELETIONS AND AMENDMENTS, SECTION 14-130, FUEL GAS CODE, AND SECTION 14-140, DELETIONS AND AMENDMENTS, IN THEIR ENTIRETY AND ADDING A NEW SECTION 14-100, SECTION 14-110, SECTION 14-130 AND SECTION 14-140; BY AMENDING CHAPTER 14, PLUMBING AND MECHANICAL CODES, ARTICLE II, MECHANICAL CODE, BY REPEALING SECTION 14-200, MECHANICAL CODE, AND SECTION 14-210, AMENDMENTS TO MECHANICAL CODE, IN THEIR ENTIRETY AND ADDING A NEW SECTION 14-200, AND SECTION 14-210; PROVIDING A PENALTY; PROVIDING A CUMULATIVE CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A SAVINGS CLAUSE; AUTHORIZING PUBLICATION; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the City of Keller desires to remain current with the most recently published edition of the International Building Codes.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KELLER, TEXAS.

Section 1: THAT, the above findings are hereby found to be true and correct and are incorporated herein in their entirety.

Section 2: THAT, Chapter 4, Buildings, Article I, Building Code, of the City of Keller Code of Ordinances, be hereby amended by repealing Section 4-110, Adoption, Section 4-111, Adoption of residential building code, and Section 4-112, Adoption of energy conservation code, in their entirety and adding a new

Section 4-110, Section 4-111, Section 4-112, and Section 4-113 to read as follows:

"***Section 4-110. Adoption.***

(a) The adoption of the International Building Code, 2015 Edition, as published by the International Code Council, a copy of which shall be filed in the office of the City Secretary and available for public inspection, is hereby adopted and designated as the building code for other than 1 & 2 family dwellings for the City, the same as though the edition of such code were copied at length herein subject to the deletions and amendments enumerated in Chapter 4, Buildings, Article 1, Building Code, Section 4-110, Adoption, paragraph (b).

(b) The following sections, paragraphs, and sentences of the 2015 International Building Code are hereby amended as follows:

Section 101.4; change to read as follows:

101.4 Referenced codes. The other codes listed in Sections 101.4.1 through 101.4.8 and referenced elsewhere in this code, when specifically adopted, shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference to NFPA 70 or the Electrical Code shall mean the Electrical Code as adopted.

Section 101.4.8; add the following:

101.4.8 Electrical. The provisions of the Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

Section 103; add Section 103.1 to read as follows:

103.1 Creation of enforcement agency. The Division of Building and Construction Services is hereby created and the official in charge thereof shall be known as the building official.

Section 109; add Section 109.7 to read as follows:

109.7 Re-inspection Fee. A fee as established by city council resolution may be charged when:

1. The inspection called for is not ready when the inspector arrives;

2. No building address or permit card is clearly posted;

3. City approved plans are not on the job site available to the inspector;

4. The building is locked or work otherwise not available for inspection when called;

5. The job site is red-tagged twice for the same item;

6. The original red tag has been removed from the job site; or

7. Failure to maintain erosion control, trash control or tree protection.

Any re-inspection fees assessed shall be paid before any more inspections are made on that job site.

Section 109; add Section 109.8, 109.8.1, 109.8.2 and 109.9 to read as follows:

109.8 Work without a permit.

109.8.1 Investigation. Whenever work for which a permit is required by this code has been commenced without first obtaining a permit, a special investigation shall be made before a permit may be issued for such work.

109.8.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code or the city fee schedule as applicable. The payment of such investigation fee shall not exempt the applicant from compliance with all other provisions of either this code or the technical codes nor from penalty prescribed by law.

109.9 Unauthorized cover up fee. Any work concealed without first obtaining the required inspection in violation of section 110 shall be assessed a fee as established by the city fee schedule.

Section 110.3.5; delete.

Section 202; amend definition of Ambulatory Health Care Facility as follows:

AMBULATORY HEALTH CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation. This group may include but not be limited to the following:

- Dialysis centers
- Sedation dentistry
- Surgery centers
- Colonic centers
- Psychiatric centers

Section 202; amend definition to read as follows:

ATRIUM. An opening connecting two three or more stories… {Balance remains unchanged}

Section 202; add definitions as follows:

ASSISTED LIVING FACILITIES. A building or part thereof housing persons, on a 24-hour basis, who because of age, mental stability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff.

REPAIR GARAGE. A building, structure or portion thereof used for servicing or repairing motor vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement and other such minor repairs.

SPECIAL INSPECTOR. A qualified person employed or retained by an approved agency who shall prove to the satisfaction of the registered design professional in responsible charge and approved by the Building Official as having the competence necessary to inspect a particular type of construction requiring special inspection.

Section 303.1.3; add a sentence to read as follows:

303.1.3 Associated with Group E occupancies. A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy. Except when applying the assembly requirements of Chapter 10 and 11.

Section 304.1; add the following to the list of occupancies:

Fire stations

Police stations with detention facilities for five (5) or less

Section 307.1.1; add the following sentence to Exception 4:

4. Cleaning establishments… {Text unchanged} …with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711 or both. See also IFC Chapter 21, Dry Cleaning Plant provisions.

Section 403.1, Exception 3; change to read as follows:

3. Open air portions of buildings with a Group A-5 occupancy in accordance with Section 303.6.

Section 403.3, Exception; delete item 2.

Section 403.3.2, change to read as follows:

403.3.2 Water supply to required fire pumps. In buildings that are more than 120 feet (36.5 m) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: {No change to exception.}

Section 404.5; delete Exception.

Section 406.3.5.1; Carport Separation; add a sentence to read as follows:

A fire separation is not required between a Group R-2 and U carport provided that the carport is entirely open on all sides and that the distance between the two is at least ten (10) feet (3048 mm).

Section 506.2.2; add a sentence to read as follows:

506.2.2 Open space limits. Such open space shall be either on the same lot or dedicated for public use and shall be accessed from a street or *approved fire lane*. In order to be considered as accessible, if not in direct contact with a street or *fire lane*, a minimum ten-foot (10') wide pathway meeting fire department access from the street or *approved fire lane* shall be provided.

Section 712.1.9, change item 4 to read as follows:

Is not open to a corridor in Group I and H occupancies.

Section 9.01.6.1; add Section 901.6.1 to read as follows:

901.6.1.1 Standpipe Testing. Building owners/managers must maintain and test standpipe systems as per NFPA 25 requirements. The following additional requirements shall be applied to the testing that is required every 5 years:

1. The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed when foreign material is present, and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.

   For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable pumping system (as approved by the Fire Marshal) to each FDC, and flow water through the standpipe system to the roof outlet to verify that each inlet connection functions properly. Confirm that there

are no open hose valves prior to introducing water into a dry standpipe. There is no required pressure criteria at the outlet. Verify that check valves function properly and that there are no closed control valves on the system.

3. Any pressure relief, reducing, or control valves shall be tested in accordance with the requirements of NFPA 25. All hose valves shall be exercised.

4. If the FDC is not already provided with approved caps, the contractor shall install such caps for all FDC's as required by the Fire Marshal.

5. Upon successful completion of standpipe test, place a blue tag (as per Texas Administrative Code, Fire Sprinkler Rules for Inspection, Test and Maintenance Service (ITM) Tag) at the bottom of each standpipe riser in the building. The tag shall be check-marked as "Fifth Year" for Type of ITM, and the note on the back of the tag shall read "5 Year Standpipe Test" at a minimum.

6. The procedures required by Texas Administrative Code Fire Sprinkler Rules with regard to Yellow Tags and Red Tags or any deficiencies noted during the testing, including the required notification of the local Authority Having Jurisdiction (Fire Marshal) shall be followed.

7. Additionally, records of the testing shall be maintained by the owner and contractor, if applicable, as required by the State Rules mentioned above and NFPA 25.

8. Standpipe system tests where water will be flowed external to the

building shall not be conducted during freezing conditions or during the day prior to expected night time freezing conditions.

9. Contact the Fire Marshal for requests to remove existing fire hose from Class II and III standpipe systems where employees are not trained in the utilization of this firefighting equipment. All standpipe hose valves must remain in place and be provided with an approved cap and chain when approval is given to remove hose by the Fire Marshal.

Section 903.1.1; change to read as follows:

[F] 903.1.1 Alternative protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted in addition to automatic sprinkler protection where recognized by the applicable standard, or as approved by the Fire Marshal.

Section 903.2; change to read as follows:

[F] 903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Section 903.2.1 through 903.2.12. Automatic sprinklers shall not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways, other than pits where such sprinklers would necessitate shunt trip requirements under any circumstances. Storage shall not be allowed within the elevator machine room. Signage shall be provided at the entry doors to the elevator machine room indicating "ELEVATOR MACHINERY – NO STORAGE ALLOWED".

Exception deleted

Section 903.2.9; add Section 903.2.9.3 to read as follows:

[F] 903.2.9.3 Self-service storage facility. An *automatic sprinkler system* shall be installed throughout all self-service storage facilities.

Exception: One-story self-service storage facilities that have no interior corridors, with a one-hour fire barrier separation wall installed between every storage compartment.

Section 903.2.11; amend 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 as follows:

[F] 903.2.11.3 Buildings 35 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories other than penthouses in compliance with Section 1510 of the International Building Code, located 35 feet (10,668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions: Open parking structures in compliance with Section 406.5 of the International Building Code, having no other occupancies above the subject garage.

[F] 903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 of the IFC to determine if those provisions apply.

[F] 903.2.11.8 Spray Booths and Rooms. New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.

[F] 903.2.11.9 Buildings Over 6,000 square feet An automatic sprinkler system shall be installed throughout all buildings with a building area 6,000 square feet or greater and in all existing buildings that are enlarged to be 6,000 sq. ft. or greater. For the purpose

of this provision, fire walls shall not define separate buildings.

Exception: Open parking garages in compliance with Section 406.5 of the International Building Code.

Section 903.3.1.1.1; change to read as follows:

[F] 903.3.1.1.1 Exempt locations. When approved by the Fire Marshal, automatic sprinklers shall not be required in the following rooms or areas where such ...{text unchanged}… because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.

2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the code official.

3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.

4. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.

5. Fire service access Elevator machine rooms, and machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.

6. {Delete.}

Section 903.3.1.2.3; add section to read as follows:

[F] Section 903.3.1.2.3 Attics and Attached Garages. Sprinkler protection is required in attic spaces of such buildings two or more stories in height, in accordance with NFPA 13 and or NFPA 13R requirements, and attached garages.

Section 903.3.1.3; change to read as follows:

[F] 903.3.1.3 NFPA 13D sprinkler systems. *Automatic sprinkler systems* installed in one- and two-family *dwellings*; Group R-3; Group R-4 Condition 1 and *townhouses* shall be permitted to be installed throughout in accordance with NFPA 13D or in accordance with state law.

Section 903.3.1.4; add to read as follows:

[F] 903.3.1.4 Freeze protection. Freeze protection systems for automatic fire sprinkler systems shall be in accordance with the requirements of the applicable referenced NFPA standard and this section.

903.3.1.4.1 Attics. Only dry-pipe, preaction, or listed antifreeze automatic fire sprinkler systems shall be allowed to protect attic spaces.

Exception: Wet-pipe fire sprinkler systems shall be allowed to protect non-ventilated attic spaces where:

1. The attic sprinklers are supplied by a separate floor control valve assembly to allow ease of draining the attic system without impairing sprinklers throughout the rest of the building, and

2. Adequate heat shall be provided for freeze protection as per the applicable referenced NFPA standard, and

3. The attic space is a part of the building's thermal, or heat, envelope, such that insulation is provided at the roof deck, rather than at the ceiling level.

903.3.1.4.2 Heat trace/insulation. Heat trace/insulation shall only be allowed where approved by the fire code official for small sections of large diameter water-filled pipe.

Section 903.3.5; add a second paragraph to read as follows:

[F] Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

Section 903.4; add a second paragraph after the exceptions to read as follows*:*

[F] Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

Section 903.4.2; add second paragraph to read as follows:

[F] The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating, installed as close as practicable to the fire department connection.

Section 905.2; change to read as follows:

[F] 905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

Section 905.3; add Section 905.3.9 and exception to read as follows:

[F] 905.3.9 Buildings exceeding 10,000 sq. ft. In buildings exceeding 10,000 square feet in area per story and where any portion of the building's interior area is more than 200 feet (60960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access, Class I automatic wet or manual wet standpipes shall be provided.

Exceptions:

1. Automatic dry and semi-automatic dry standpipes are allowed as provided for in NFPA 14.

2. R-2 occupancies of four stories or less in height having no interior corridors.

Section 905.4, change Item 1., 3., and 5. and add Item 7. to read as follows:

[F] 1. In every required interior exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at an intermediate landing between stories, unless otherwise approved by the Fire Marshal.

3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable

from an interior exit stairway hose connection by a …{No change to rest.}

4. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way a hose connection shall be located to serve the roof or at the highest landing of an interior exit stairway with stair access to the roof provided in accordance with Section 1011.12.

7. When required by this Chapter, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the Fire Marshal.

Section 905.9; add a second paragraph after the exceptions to read as follows:

[F] Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

Section 907.1; add Section 907.1.4 and 907.1.4.1 to read as follows:

[F] 907.1.4 Design standards. Where a new fire alarm system is installed, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke detectors shall have analog initiating devices.

Section 907.2.1; change to read as follows:

[F] 907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the having an occupant load due to the assembly occupancy is of 300 or more persons or more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3. 10 of the International Building Code shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: {No change.}

Activation of fire alarm notification appliances shall:

1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level, and

2. Stop any conflicting or confusing sounds and visual distractions.

Section 907.2.3; change to read as follows:

[F] 907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E educational occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. An approved smoke detection system shall be installed in Group E day care occupancies. Unless separated by a minimum of 100' open space, all buildings, whether portable buildings or the main building, will be considered one building for

alarm occupant load consideration and interconnection of alarm systems.
Exceptions:

1. {No change.}

1.1 Residential In-Home day care with not more than 12 children may use interconnected single station detectors in all habitable rooms. (For care of more than five children 2 1/2 or less years of age, see Section 907.2.6.)

{No change to remainder of exceptions.}

Section 907.2.13, Exception 3; change to read as follows:

[F] 3. Open air portions of buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the International Building Code; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants and similarly enclosed areas.

Section 907.4.2; add Section 907.4.2.7 to read as follows:

[F] 907.4.2.7 Type. Manual alarm initiating devices shall be an approved double action type.

Section 907.6.1; add Section 907.6.1.1 to read as follows:

[F] 907.6.1.1 Wiring Installation. All fire alarm systems shall be installed in such a manner that a failure of any single initiating device or single open in an initiating circuit conductor will not interfere with the normal operation of other such devices. All signaling line circuits (SLC) shall be installed in such a way that a single open will not interfere with the operation of any addressable devices (Class A). Outgoing and return SLC conductors shall be installed in accordance with NFPA 72

requirements for Class A circuits and shall have a minimum of four feet separation horizontal and one foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device may be wired Class B, provided the distance from the interface device to the initiating device is ten feet or less.

Section 907.6.3; delete all four Exceptions.

Section 907.6.6; – add sentence at end of paragraph to read as follows:

[F] See 907.6.3 for the required information transmitted to the supervising station.

Section 909.22; add to read as follows:

[F] 909.22 Stairway or ramp pressurization alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the stair pressurization alternative is chosen for compliance with Building Code requirements for a smokeproof enclosure, interior exit stairways or ramps shall be pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Such systems shall comply with Section 909, including the installation of a separate fire-fighter's smoke control panel as per Section 909.16, and a Smoke Control Permit shall be required from the Fire Department as per Section 105.7.

[F] 909.22.1 Ventilating equipment. The activation of ventilating equipment for the stair or ramp pressurization system shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway or ramp shaft and

vestibule doors is activated by smoke detection or power failure, mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

[F] 909.22.1.1 Ventilation systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance

with Section 711 of the Building Code, or both.

Exceptions:

1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.

   Where encased with not less than 2 inches (51 mm) of concrete.

3. Control wiring and power wiring protected by a listed electrical circuit protective systems with a fire-resistance rating of not less than 2 hours.

[F] 909.22.1.2 Standby power. Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 2702 of the Building Code.

[F] 909.22.1.3 Acceptance and testing. Before the mechanical equipment is approved, the system shall be tested in the presence of the Fire Marshal to confirm that the system is operating in compliance with these requirements.

Section 910.2; change Exception 2. and 3.to read as follows:

[F] 2. Only manual smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.

3. Only manual smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of $50(m*S)^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer

sprinklers. Automatic smoke and heat removal is prohibited.

Section 910.2; add subsections 910.2.3 with *exceptions to read as* follows:

[F] 910.2.3 Group H. Buildings and portions thereof used as a Group H occupancy as follows:

1. In occupancies classified as Group H-2 or H-3, any of which are more than 15,000 square feet (1394 m^2) in single floor area.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a high-hazard commodity classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

Section 910.3; add section 910.3.4 to read as follows:

[F] 910.3.4 Vent operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

[F] 910.3.4.1 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically. The automatic operating

mechanism of the smoke and heat vents shall operate at a temperature rating at least 100 degrees F (approximately 38 degrees Celsius) greater than the temperature rating of the sprinklers installed.

Exception: Manual only system per 910.2

[F] 910.3.4.2 Nonsprinklered buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Listed gravity-operated drop out vents.

Section 910.4.3.1; change to read as follows:

[F] 910.4.3.1 Makeup air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m2 per 0.4719 m3/s) of smoke exhaust.

Section 910.4.4; change to read as follows:

[F] 910.4.4 Activation. The mechanical smoke removal system shall be activated by manual controls only automatically by the automatic sprinkler system or by an approved fire detection system. Individual manual controls shall also be provided.

Exception: Manual only systems per Section 910.2.

Section 912.2; add Section 912.2.3 to read as follows:

[F] 912.2.3 Hydrant distance. An approved fire hydrant shall be located within 100 feet

of the fire department connection as the fire hose lays along an unobstructed path.

Section 913.2.1; add second paragraph and exception to read as follows:

[F] When located on the ground level at an exterior wall, the fire pump room shall be provided with an exterior fire department access door that is not less than 3 ft. in width and 6 ft. – 8 in. in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by Section 506.1.

Exception: When it is necessary to locate the fire pump room on other levels or not at an exterior wall, the corridor leading to the fire pump room access from the exterior of the building shall be provided with equivalent fire resistance as that required for the pump room, or as approved by the Fire Marshal. Access keys shall be provided in the key box as required by Section 506.1.

Section 1006.2.2.6 Add a new Section 1006.2.2.6 as follows:

1006.2.2.6 Electrical Rooms. For electrical rooms, special exiting requirements may apply. Reference the electrical code as adopted.

Section 1009.1; add the following Exception 4:

Exceptions: {previous exceptions unchanged}

4. Buildings regulated under State Law and built in accordance with State registered plans, including any variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of Section 1009.

Section 1010.1.9.4 Bolt Locks; amend exceptions 3 and 4 as follows:

Exceptions:

3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F, M or S occupancy. {Remainder unchanged}

4. Where a pair of doors serves a Group A, B, F, M or S occupancy {Remainder unchanged}

Section 1015.8 Window Openings. Option B REVISE text as follows:

1. Operable windows where the top of the sill of the opening is located more than 55 feet (16 764 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.

Section 1020.1 Construction; add exception 6 *to read as follows:*

6. In group B occupancies, corridor walls and ceilings need not be of fire-resistive construction within a single tenant space when the space is equipped with approved automatic smoke-detection within the corridor. The actuation of any detector shall activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors shall be connected to an approved automatic fire alarm system where such system is provided.

Section 1029.1.1.1 Delete this section. Spaces under grandstands and bleachers;

Section 1101.1 Scope. add exception to Section 1101.1 as follows:

Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of

Licensing and Regulation shall be deemed to be incompliance with the requirements of this chapter.

Section 1203.1; amend to read as follows:

1203.1 General. Buildings shall be provided with natural ventilation in accordance with Section 1203.4, or mechanical ventilation in accordance with the International Mechanical Code.

Where air infiltration rate in a dwelling unit is less than 5 air changes or less per hour when tested with a blower door at a pressure 0.2 inch w.c. (50 Pa) in accordance with Section 402.4.1.2 of the International Energy Conservation Code, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403 of the International Mechanical Code.

Table 1505.1; delete footnote c and replace footnote b with the following:

b. Non-classified roof coverings shall be permitted on buildings of U occupancies having not more than 120 sq. ft. of protected roof area. When exceeding 120 sq. ft. of protected roof area, buildings of U occupancies may use non-rated non-combustible roof coverings.

c. [delete]

Section 1505.7; delete the section

Section 1510.1; add a sentence to read as follows:

1510.1 General. Materials and methods of applications used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15. All individual replacement shingles or shakes shall be in compliance with the rating required by Table 1505.1. {text of exception unchanged}

Section 1704.2, Special inspections and tests is amended to read as follows:

1704.2 Special inspections and tests. Where application is made to the Building Official for construction as specified in Section 105, the owner or the owner's authorized agent, or the registered design professional in responsible charge, other than the contractor, shall employ one or more approved agencies to provide special inspections and tests during construction on the types of work listed under Section 1705 and identify the approved agencies to the Building Official. The special inspector shall not be employed by the contractor. These special inspections and tests are in addition to the inspections identified by the Building Official that are identified in Section 110.

Section 1704.2.1, Special inspector qualifications, is amended to read as follows:

1704.2.1 Special inspector qualifications. Prior to the start of construction and or upon request, the approved agencies shall provide written documentation to the registered design professional in responsible charge and the building official demonstrating the competence and relevant experience or training of the special inspectors who will perform the special inspections and tests during construction. [Remainder unchanged]

Section 1704.2.4, Report requirement, is amended to read as follows:

1704.2.4 Report requirement. Approved agencies shall keep records of special inspections and tests. The approved agency shall submit reports of special inspections and tests to the Building Official upon request, and to the registered design professional in responsible charge. Individual inspection reports [Reports] shall indicate that work inspected or tested was or was not completed in conformance to approved construction documents. [Remainder unchanged]

Section 1704.2.5.2, Fabricator approval, is amended to read as follows:

1704.2.5.1 Fabricator approval. Special inspections during fabrications required by Section 1704 are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved agency, or a fabricator that is enrolled in a nationally accepted inspections program. At completion of fabrication, the acceptable or approved fabricator shall submit a certificate of compliance to the owner or the owner's authorized agent or the registered design professional in responsible charge, for submittal to the building official as specified in Section 1704.5 stating that the work was performed in accordance with the approved construction documents. The certificate of compliance shall also be made available to the Building Official upon request.

Section 2901.1; add a sentence to read as follows:

[P] 2901.1 Scope. {existing text to remain} The provisions of this Chapter are meant to work in coordination with the provisions of Chapter 4 of the International Plumbing Code. Should any conflicts arise between the two chapters, the Building Official shall determine which provision applies.

Section 2902.1; add a second paragraph to read as follows:

In other than E Occupancies, the minimum number of fixtures in Table 2902.1 may be lowered, if requested in writing, by the applicant stating reasons for a reduced number and approved by the Building Official.

Table 2902.1; add footnote f to read as follows:

f. Drinking fountains are not required in M Occupancies with an occupant load of 100 or less, B Occupancies with an occupant load of 25 or less, and for dining and/or drinking establishments.

Section 2902.1.3; add new Section 2902.1.3 to read as follows:

2902.1.3 Additional fixtures for food preparation facilities. In addition to the fixtures required in this Chapter, all food service facilities shall be provided with additional fixtures set out in this section. 2902.1.3.1 Hand washing lavatory. At least one hand washing lavatory shall be provided for use by employees that is accessible from food preparation, food dispensing and ware washing areas. Additional hand washing lavatories may be required based on convenience of use by employees.

2902.1.3.2 Service sink. In new or remodeled food service establishments, at least one service sink or one floor sink shall be provided so that it is conveniently located for the cleaning of mops or similar wet floor cleaning tool and for the disposal of mop water and similar liquid waste. The location of the service sink(s) and/or mop sink(s) shall be approved by the <Jurisdiction's> health department.

Section 3002.1 Hoistway Enclosure Protection. add exceptions to read as follows:

Exceptions:

1. Elevators wholly located within atriums complying with Section 404 shall not require hoistway enclosure protection.

2. Elevators in open or enclosed parking garages that serve only the parking

garage, and complying with Sections 406.5 and 406.6, respectively, shall not require hoistway enclosure protection.

Section 3005.4 Machine rooms, control rooms, machinery spaces and control spaces to read as follows:

Elevator machine rooms, control rooms, control spaces and machinery spaces shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. [Remainder unchanged]

Section 3005.7 add a Section 3005.7 as follows:

3005.7 Fire Protection in Machine rooms, control rooms, machinery spaces and control spaces.

3005.7.1 Automatic sprinkler system. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3005.7.2.1.

3005.7.2.1 Prohibited locations. Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoist-ways.

3005.7.2.2 Sprinkler system monitoring. The sprinkler system shall have a sprinkler control valve supervisory switch and water-flow initiating device provided for each floor that is monitored by the building's fire alarm system.

3005.7.3 Water protection. An approved method to prevent water from infiltrating into the hoistway enclosure from the operation of the automatic sprinkler system outside the elevator lobby shall be provided.

3005.7.4 Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed.

Section 3005.8 add Section 3005.8 as follows:

3005.8 Storage. Storage shall not be allowed within the elevator machine room, control room, machinery spaces and or control spaces. Provide approved signage at each entry to the above listed locations stating: "No Storage Allowed.

Section 3006.2, Hoistway opening protection required. Revise text as follows:

5. The building is a high rise and the elevator hoistway is more than 55 feet (16 764 mm) in height. The height of the hoistway shall be measured from the lowest floor at or above grade to the highest floors served by the hoistway.

Section 3109.1; change to read as follows:

3109.1 General. Swimming pools shall comply with the International Swimming Pool and Spa Code 2009 IRC Appendix G. Swimming Pools, Spas and Hot Tubs and Sections 4-200 through 4-270 of the City of Keller Code of Ordinances, whichever is more restrictive.

Section 1505.7; delete the section.

Section 1507.8; delete and replace with the following:

Section 1507.8 Wood shingles. Wood shingles are not allowed, shall not be allowed as an alternative material, and shall not be installed or used on any new construction or re-roofing of any structure.

Existing structures which have wood shingles may be repaired with fire-retardant shingles of a comparable grade; however, owners shall have the option of installing any allowed

Class A, Class B, or Class C roofing material over the existing wood shingles, providing the existing roof structural systems are adequate for modification. "Repair" means the replacement of damaged or destroyed shingles, provided the area repaired does not exceed twenty-five (25) percent of the square foot surface area of the roof.

Section 1507.9; delete and replace with the following*:*

Section 1507.9 Wood shakes. Wood shakes are not allowed, shall not be allowed as an alternative material, and shall not be installed or used on any new construction or re-roofing of any structure.

Existing structures which have wood shakes may be repaired with fire-retardant shakes of a comparable grade; however, owners shall have the option of installing any allowed Class A, Class B, or Class C roofing material over the existing wood shakes, providing the existing roof structural systems are adequate for modification. "Repair" means the replacement of damaged or destroyed shakes, provided the area repaired does not exceed twenty five (25) percent of the square foot surface area of the roof.

Section 1510.1; add a sentence to read as follows:

1510.1 General. Materials and methods of applications used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15. All individual replacement shingles or shakes shall be in compliance with the rating required by Table 1505.1.

"Section 4-111 Adoption of the Residential Building Code.

(a) The adoption of the International Residential Code, 2015 Edition, including Appendix G, as published by

the International Code Council, a copy of which shall be filed in the office of the City Secretary and available for public inspection, is hereby adopted and designated as the building code for 1 & 2 family dwellings for the City, the same as though the edition of such code were copied at length herein subject to the deletions and amendments enumerated in Chapter 4, Buildings, Article I, Building Code, Section 4-111, Paragraph (b).

(b) The following sections, paragraphs, and sentences of the *2015 International Residential Code* are hereby amended as follows:

R102.4 Referenced codes and standards. The codes, when specifically adopted, shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections R102.4.1 and R102.4.2. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference made to NFPA 70 or the Electrical Code shall mean the Electrical Code as adopted.

Section R104.10.1 Flood Hazard areas; delete this section.

Section R105.3.1.1& R106.1.4; delete these sections.

Section 108.7; add Section 108.7 to read as follows:

108.7 Re-inspection Fee. A fee as established by city council resolution may be charged when:

1. The inspection called for is not ready when the inspector arrives;

2. No building address or permit card is clearly posted;

3. Approved plans are not on the job site available to the inspector;

4. The building is locked or work otherwise not available for inspection when called;

5. The job site is red-tagged twice for the same item;

6. The original red tag has been removed from the job site; or

7. Violations exist on the property including failure to maintain erosion control, trash control or tree protection.

8. Any re-inspection fees assessed shall be paid before any more inspections are made on that job site.

Section R110 (R110.1 through R110.5); delete the section.

Section R202; change definition of "Townhouse" to read as follows:

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units separated by property lines in which each unit extends from foundation to roof and with a *yard* or *public way* on at least two sides.

Section R302.1; add exception #6 to read as follows:

6. Open non-combustable carport structures may be constructed when also approved within adopted ordinances.

Section R302.3, add Exception #3 to read as follows:

1. *{existing text unchanged}*

2. *{existing text unchanged}*

3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

Section R302.5.1; change to read as follows:

R302.5.1 Opening protection. 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 one and three-eighths (1 3/8) inches (35 mm) in thickness, solid or honeycomb core steel doors not less than one and three-eighths (1 3/8) inches (35 mm) thick, or 20-minute fire-rated doors equipped with a self-closing device.

Section R303.3, Exception; change to read as follows:

Exception: **{**existing text unchanged**}** Exhaust air from the space shall be exhaust out to the outdoors unless the space contains only a water closet, a lavatory, or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

Section R315.2.2 Alterations, repairs and additions. Amend to read as follows:

Exception:

1. Installation, alteration or repairs of electrical powered {remaining text unchanged}

Section R322 Flood Resistant Construction. Deleted Section.

Section R326 Swimming Pools, Spas and Hot Tubs. Amended to read as follows:

R326.1 General. The design and construction of pools and spas shall comply with the International Swimming Pool and Spa Code 2009 IRC Appendix G. Swimming Pools, Spas and Hot Tubs.

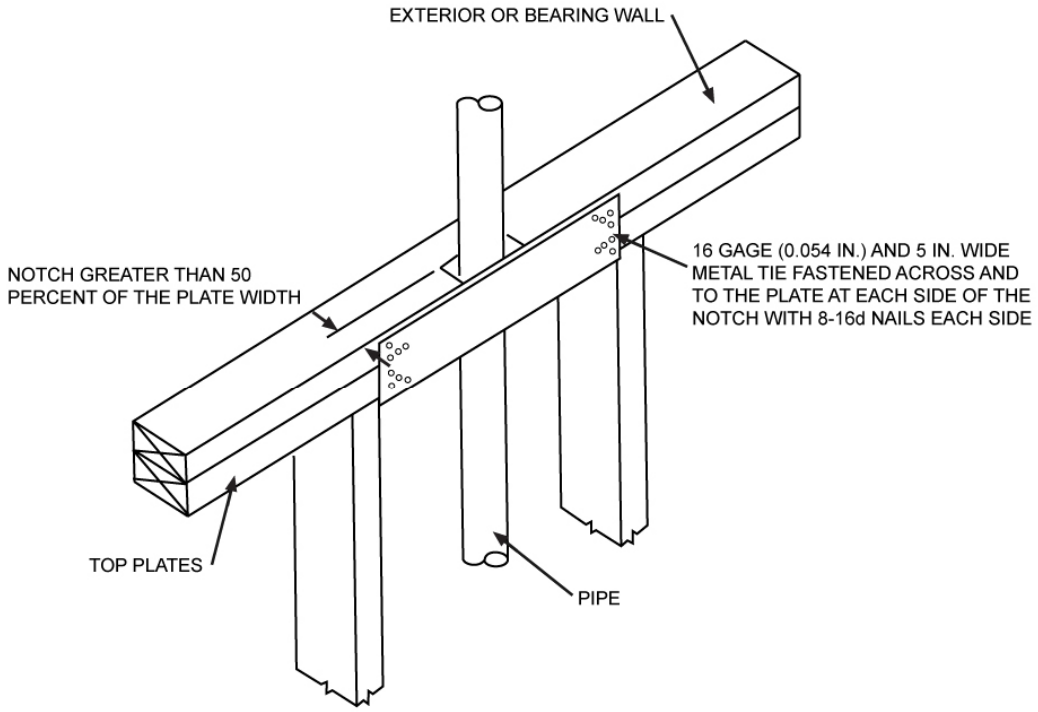
Section R401.2, amended by adding a new paragraph following the existing paragraph to read as follows.

Section R401.2. Requirements. {existing text unchanged} … Every foundation and/or footing, or any size addition to an existing post-tension foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

Section R602.6.1; amend the following:

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than fifty (50) percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 Ga) and five (5) inches (127 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight (8) 10d (0.148 inch diameter) having a minimum length of one and one-half (1-½) inches (38 mm)at each side or equivalent. Fasteners will be offset to prevent splitting of the top plate material. The metal tie must extend a minimum of six (6) inches past the opening. See figure R602.6.1. {remainder unchanged}

Figure R602.6.1; delete the figure and insert the following figure:



For SI: 1 inch = 25.4 mm

FIGURE R602.6.1
TOP PLATE FRAMING TO ACCOMMODATE PIPING

Section R703.8.4.1; add a second paragraph to read as follows:

In stud framed exterior walls, all ties shall be anchored to studs as follows:

1. When studs are sixteen (16) inches (407 mm) on center, stud ties shall be spaced no further apart than twenty-four (24) inches (737 mm) vertically starting approximately twelve (12) inches (381 mm) from the foundation; or

2. When studs are twenty-four (24) inches (610 mm)on center, stud ties shall be spaced no further apart than sixteen

(16) inches (483 mm) vertically starting approximately eight (8) inches (254 mm) from the foundation.

Section R902.1; amend and add exception #3 to read as follows:

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B, or C roofing shall be installed (delete the remainder of this sentence). *{remainder unchanged}*

Exceptions:

1. *{text unchanged}*

2. *{text unchanged}*

3. *{text unchanged}*

4. *{text unchanged}*

5. Non-classified roof coverings shall be permitted on one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed (area defined by jurisdiction).

Section R905.7; change to read as follows*:*

R905.7 Wood shingles. Wood shingles are not allowed, shall not be allowed as an alternative material, and shall not be installed or used on any new construction or re-roofing of any structure.

Existing structures which have wood shingles may be repaired with fire-retardant shingles of a comparable grade; however, owners shall have the option of installing any allowed Class A, Class B, or Class C shingles providing existing roof structural systems are adequate for modification. "Repair" means the replacement of damaged or destroyed shingles, provided the area repaired does not exceed

twenty-five (25) percent of the square foot surface area of the roof.

Section R905.8; change to read as follows*:*

R905.8 Wood shakes. Wood shingles are not allowed, shall not be allowed as an alternative material, and shall not be installed or used on any new construction or re-roofing of any structure.

Existing structures which have wood shakes may be repaired with fire-retardant shakes of a comparable grade; however, owners shall have the option of installing any allowed Class A, Class B, or Class C shakes providing existing roof structural systems are adequate for modification. "Repair" means the replacement of damaged or destroyed shakes, provided the area repaired does not exceed twenty-five (25) percent of the square foot surface area of the roof.

Section R907.1; add a sentence to read as follows:

R907.1 General. Materials and methods of application used for re-covering or replacing an existing roof covering shall comply with the requirements of Chapter 9. All individual replacement shingles or shakes shall comply with Section R902.1.

Chapter 11 [RE] – Energy Efficiency is deleted and replaced with the following:

N1101.1 Scope. This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

N1101.2 Compliance. Compliance shall be demonstrated by meeting the requirements of the residential provisions of 2015 International Energy Conservation Code.

Section M1305.1.3; change to read as follows:

M1305.1.3 Appliances in attics. Attics containing *appliances* requiring access shall be provided *. . . {bulk of paragraph unchanged} . . .* sides of the *appliance* where access is required. The clear access opening dimensions shall be a minimum of twenty (20) inches by thirty (30) inches (508 mm by 762 mm) or larger and large enough to allow removal of the largest *appliance*. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, access to the *attic* space, provide one of the following:

1. A permanent stair.

2. A pull down stair with a minimum three hundred (300) pound (136 kg) capacity.

3. An access door from an upper floor level.

4. Access Panel may be used in lieu items 1, 2, and 3 with prior approval of the *building official* due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.

2. Where the passageway is unobstructed*…{remaining text unchanged}*

Section M1305.1.3.1; add text to read as follows:

M1305.1.3.1 Electrical requirements. A luminaire controlled by a switch located at the required passage-way opening and a receptacle outlet shall be installed at or near the *appliance* location in accordance with

Chapter 39. Low voltage wiring of fifty (50) Volts or less shall be installed in a manner to prevent physical damage.

Section M1305.1.4.1; change to read as follows:

M1305.1.4.1 Ground clearance. Equipment and *appliances* supported from the ground shall be level and firmly supported on a concrete slab or other *approved* material extending above the adjoining ground a minimum of three (3) inches. Appliances suspended from the floor shall have a clearance of not less than six (6) inches above the ground.

Section M1305.1.4.3; add text to read as follows:

M1305.1.4.3 Electrical requirements. A luminaire controlled by a switch located at the required passage-way opening and a receptacle outlet shall be installed at or near the *appliance* location in accordance with Chapter 39. Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

Section M1411.3; change to read as follows:

M1411.3 Condensate disposal. Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to an approved place of disposal a sanitary sewer through a trap, by means of a direct or indirect drain. {remaining text unchanged}

Section M1411.3.1, Items 3 and 4; add text to read as follows:

M1411.3.1 Auxiliary and secondary drain systems. {bulk of paragraph unchanged}

1. *{text unchanged}*

2. *{text unchanged}*

3. An auxiliary drain pan… *{bulk of text unchanged}…* with Item 1 of this section. A water level detection device may be installed only with prior approval of the *building official*.

4. A water level detection device… *{bulk of text unchanged}…* overflow rim of such pan. A water level detection device may be installed only with prior approval of the *building official*.

Section M1411.3.1.1; add text to read as follows:

M1411.3.1.1 Water-level monitoring devices. On down-flow units *…{bulk of text unchanged}…* installed in the drain line. A water level detection device may be installed only with prior approval of the *building official.*

M1503.4 Makeup Air Required Amend and add exception as follows:

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m3/s) shall be provided with makeup air at a rate approximately equal to the difference between the exhaust air rate and 400 cubic feet per minute. 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.

Exception: Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute(0.28 m3/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m3/s) shall be provided with a makeup air at a rate approximately equal to the difference

between the exhaust air rate and 600 cubic feet per minute.

Section M2005.1; change the second sentence to read as follows:

Water heaters shall not be installed in an attic with the exception of tankless water heaters.

Section M2005.2; change to read as follows:

M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that *combustion air* will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the *International Energy Conservation Code* and equipped with an *approved* self-closing device. Installation of direct-vent water heaters within an enclosure is not required.

Section G2408.3 (305.5); delete.

Section G2415.2.1 (404.2.1); add a second paragraph to read as follows:

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an approved tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING: 1/2 to 5 psi gas pressure - Do Not Remove"

Section G2415.2.2 (404.2.2); add an exception to read as follows:

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of 1/2" (18 EDH).

Section G2415.12 (404.12); change to read as follows:

G2415.12 (404.12) Minimum burial depth. Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) 18 inches (457 mm) below grade, except as provided for in Section G2415.12.1.

Section G2417.1 (406.1); change to read as follows:

G2417.1 (406.1) General. Prior to acceptance and initial operation, all *piping* installations shall be inspected and *pressure tested* to determine that the materials, design, fabrication, and installation practices comply with the requirements of this *code*. The *permit* holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.5 to determine compliance with the provisions of this *code*. The *permit* holder shall give reasonable advance notice to the *building official* when the *piping system* is ready for testing. The *equipment*, material, power and labor necessary for the inspections and test shall be furnished by the *permit* holder and the *permit* holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

Section G2417.4; change to read as follows:

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the *pressure test* period. The source of pressure shall be isolated before the *pressure tests* are made.

Section G2417.4.1; change to read as follows:

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be not less than three (3) psig (20 kPa gauge), or at the

discretion of the *Building Official*, the *piping* and *valves* may be tested at a pressure of at least six (6) inches(152 mm) of mercury, measured with a manometer or slope gauge. For tests requiring a pressure of three (3) psig, gauges shall utilize a dial with a minimum diaphragm diameter of three and one-half (3-½) inches, a set hand, 1/10 pound incrementation and pressure range not to exceed six (6) psi for tests requiring a pressure of three (3) psig. For tests requiring a pressure of ten (10) psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half (3-½)inches, a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed twenty (20) psi.

For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than two hundred (200) inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For *piping* carrying gas at a pressure that exceeds two hundred (200) inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half (1-1/2) times the proposed maximum working pressure. Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing

Section G2417.4.2; change to read as follows:

G2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for less than fifteen (15) minutes. For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for less than thirty (30) minutes.

Section G2420.1 (406.1); add Section G2420.1.4 to read as follows:

G2420.1.4 Valves in CSST installations. Shutoff *valves* installed with corrugated stainless steel (CSST) *piping systems* shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the *valves*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than twelve (12) inches from the center of the *valve*. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's *piping*, fittings, and *valves* between anchors. All *valves* and supports shall be designed and installed so they will not be disengaged by movement of the supporting *piping*.

Section G2420.5.1 (409.5.1); add text to read as follows:

G2420.5.1 (409.5.1) Located within the same room. The shutoff valve *…{bulk of paragraph unchanged}…* in accordance with the appliance manufacturer's instructions. A secondary shutoff valve must be installed within 3 feet (914 mm) of the firebox if appliance shutoff is located in the firebox.

Section G2421.1 (410.1); add text and Exception to read as follows:

G2421.1 (410.1) Pressure regulators. A line *pressure regulator* shall be *… {bulk of paragraph unchanged}… approved* for outdoor installation. Access to *regulators* shall comply with the requirements for access to *appliances* as specified in Section M1305.

Exception: A passageway or level service space is not required when the *regulator* is capable of being serviced and removed through the required *attic* opening.

Section G2422.1.2.3 (411.1.3.3); delete Exception 1 and Exception 4.

Section G2445.2 (621.2); add Exception to read as follows:

G2445.2 (621.2) Prohibited use. One or more *unvented room heaters* shall not be used as the sole source of comfort heating in a *dwelling unit*.

Exception: Existing *approved unvented room heaters* may continue to be used in *dwelling units*, in accordance with the *code* provisions in effect when installed, when *approved* by the *Building Official* unless an unsafe condition is determined to exist as described in *International Fuel Gas Code* Section 108.7 of the Fuel Gas Code.

Section G2448.1.1 (624.1.1); change to read as follows:

G2448.1.1 (624.1.1) Installation requirements. The requirements for *water heaters* relative to access, sizing, *relief valves*, drain pans and scald protection shall be in accordance with this *code.*

Water heaters shall not be located in an attic.

Exception: Tankless water heaters

Section P2801.6.1; change to read as follows:

Section P2801.6.1 Pan size and drain. The pan shall be not less than 11/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4.

Multiple pan drains may terminate to a single discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

Section P2804.6.1; change to read as follows:

Section P2804.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.

2. Discharge through an air gap located in the same room as the water heater.

3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.

4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   Exception: Multiple relief devices may be installed to a single T & P discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

5. Discharge to the floor, to an indirect waste receptor or to the outdoors.

[remainder unchanged]

Section P2801.7; add Exception to read as follows:

Exceptions:

1. Electric Water Heater.

Section P2902.5.3; change to read as follows:

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a

pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

Section P3009.9; change to read as follows:

P3003.9. Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent cement joints shall be permitted above or below ground.

Section P3111; delete.

Section P3112.2; delete and replace with the following:

P3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts

of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot (20.9 mm/m) back to the drain shall be maintained. The return bend used under the drain-board shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

"***Section 4-112. Adoption of the Energy Conservation Code.***

(a) The adoption of the *International Energy Conservation Code*, 2015 Edition, as published by the International Code Council, a copy of which shall be filed in the office of the City Secretary and available for public inspection, is hereby adopted and designated as the energy conservation code for the City, the same as though the edition of such code were copied at length herein subject to the deletions and amendments enumerated in Chapter 4, Buildings, Article I, Building Code, Section 4-112, Paragraph (b).

(b) The following sections, paragraphs, and sentences of the *2015 International Energy Conservation Code* are hereby amended as follows:

Section C102/R102; add Section C102.1.2 and R102.1.2 to read as follows:

C102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program

certification of energy code equivalency shall be considered in compliance.

R102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance. Regardless of the program or the path to compliance, each 1- and 2-family dwelling shall be tested for air and duct leakage as prescribed in Section R402.4 and R403.3.3 respectively.

Section C202 and R202; add the following definition:

PROJECTION FACTOR. The ratio of the horizontal depth of the overhang, eave or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave or permanently attached shading device.

Section R202; add the following definition:

DYNAMIC GLAZING. Any fenestration product that has the fully reversible ability to change it performance properties, including U-factor, solar heat gain coefficient (SHGC), or visible transmittance (VT).

Section R402.3.2 Glazed fenestration SHGC; amend by adding a paragraph and table following the exception to read as follows:

Where vertical fenestration is shaded by an overhang, eave, or permanently attached shading device, the SHGC required in Table R402.1.2 shall be reduced by using the multipliers in Table R402.3.2 SHGC Multipliers for Permanent Projections.

Table R402.3.2 SHGC Multipliers for Permanent Projections [a] Projection Factor	SHGC Multiplier (all Other Orientation)	SHGC Multiplier (North Oriented)
0 - 0.10	1.00	1.00
>0.10 – 0.20	0.91	0.95
>0.20 – 0.30	0.82	0.91
>0.30 – 0.40	0.74	0.87
>0.40 – 0.50	0.67	0.84
>0.50 – 0.60	0.61	0.81
>0.60 – 0.70	0.56	0.78
>0.70 – 0.80	0.51	0.76
>0.80 – 0.90	0.47	0.75
>0.90 – 1.00	0.44	0.73

R402.4.1.2 Testing; Add a last paragraph to read as follows:

Mandatory testing shall only be performed by individuals that are certified to perform air infiltration testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

R403.3.3 Duct Testing (Mandatory) Add a last paragraph to read as follows:

Mandatory testing shall only be performed by individuals that are certified to perform duct testing leakage testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

Section C402.2.7/R402.2; Add Section C402.2.9 and R402.2.14 to read as follows:

Section C402.2.7/R402.2.14 Insulation installed in walls. To insure that insulation

remains in place, insulation installed in walls shall be totally enclosed on all sides consisting of framing lumber, gypsum, sheathing, wood structural panel sheathing, netting or other equivalent material approved by the building official.

Section R405.6.2; add the following sentence to the end of paragraph:

Acceptable performance software simulation tools may include, but are not limited to, REM Rate™, Energy Gauge and IC3. Other performance software programs accredited by RESNET BESTEST and having the ability to provide a report as outlined in R405.4.2 may also be deemed acceptable performance simulation programs and may be considered by the building official.

TABLE R406.4 MAXIMUM ENERGY RATING INDEX; amend to read as follows:

TABLE R406.4[1]
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	65

TABLE R406.4[2]
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	63

TABLE R406.4[3]
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	59

"Section 4-113. Adoption of the International Existing Building Code (IEBC).

(a) The adoption of the *International Existing Building Code*, 2015 Edition, as published by the International Code Council, a copy of which shall be filed in the office of the City Secretary and available for public inspection, is hereby adopted and designated as the existing building code for the City, the same as though the edition of such code were copied at length herein subject to the

deletions and amendments enumerated in Chapter 4, Buildings, Article I, Building Code, Section 4-113.

(b) The following sections, paragraphs, and sentences of the *2015 International Existing Building Code* are hereby amended as follows:

Section 102.4; Change to read as follows:

[A] 102.4 Referenced codes and standards. The codes, when specifically adopted, and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 and 102.4.2.

Section 202; amend definition of Existing Building as follows:

Existing Building - A building, structure, or space, with an approved final inspection issued under a code edition which is at least 2 published code editions preceding the currently adopted building code; or a change of occupancy.

Section 405.1.2, 405.1.3, 405.1.4; change to read as follows:

405.1.2 Existing fire escapes. Existing fire escapes shall continue to be accepted as a component in the means of egress in existing buildings only. Existing fire escapes shall be permitted to be repaired or replaced.

Section 405.1.3; delete entire section

Section 406.2; change to read as follows:

406.2 Replacement window opening control devices. In Group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window . . . The window

opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1030.2 of the International Building Code. (Remainder unchanged)

Section 406.3; change to read as follows:

406.3 Replacement window emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the International Building Code provided the replacement window meets the following conditions:(Remainder unchanged)

Section 409.1 add an exception to read as follows:

Exception: Moved historic buildings need not be brought into compliance with the exception of new construction features required as the result of such movement, including but not limited to foundations and/or other structural elements.

Section 410.1 adds an exception to read as follows:

Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of Licensing and Regulation shall be deemed to be incompliance with the requirements of this chapter.

Section 410.4.2; Add Number 7 to the list of requirements as follows:

7. At least one accessible family or assisted use toilet room shall be provided in accordance with Chapter 11 of the International Building Code.

Section 602.3; add code reference to read as follows:

602.3 Glazing in hazardous locations. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the International Building Code, International Energy Conservation Code, or International Residential Code as applicable.

Section 607.1; add a code reference to read as follows:

607.1 Material. Existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material, in accordance with the requirements of NFPA 70.

Section 702.6; add a code reference to read as follows:

702.6 Materials and methods. All new work shall comply with the materials and methods requirements in the International Building Code, International Energy Conservation Code, International Mechanical Code, National Electrical Code, and International Plumbing Code, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

Section 802.1; add a code reference to read as follows:

802.1 General. Alteration of buildings classified as special use and occupancy as described in Chapter 4 of the International Building Code shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

Section 803.5.1; Exception; change to read as follows:

803.5.1 Minimum requirement. Every portion of open-sided walking surfaces, including mezzanines, equipment platforms, aisles, stairs, ramps and landings that are not provided with guards, or those in which the existing guards are judged to be in danger of collapsing, shall be provided with guards.

Section 804.1; add sentence to read as follows:

For the purpose of fire sprinkler protection and fire alarm requirements included in this section, the work area shall be extended to include at least the entire tenant space or spaces bounded by walls capable of resisting the passage of smoke containing the subject work area, and if the work area includes a corridor, hallway, or other exit access, then such corridor, hallway, or other exit access shall be protected in its entirety on that particular floor level.

Section 804.2.2, Number 2; change Exception to read as follows:

Exception: Where the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, fire sprinkler protection shall not be required.

Section 804.2.5; change Exception to read as follows:

Exception: Supervision is not required where the Fire Code does not require such for new construction.

Section 804.3; change section to read as follows:

804.3 Standpipes. Refer to Section 1103.6 of the Fire Code for retroactive standpipe requirements.{Delete rest of Section 804.3.}

Section 805.2; Remove Exception #1

Section 805.3.1.1; delete #4

Section 805.3.1.2; add change to read as follows:

805.3.1.2 Fire Escapes required. For other than Group I-2, where more than one exit is required an existing or newly constructed fire escape complying with section 805.3.1.2.1 shall be accepted as providing one of the required means of egress.

Section 805.3.1.2.1; add change to read as follows:

805.3.1.2.1 Fire Escape access and details – …

Access to a fire escape shall be through a door...

3. (Strike whole section)
5. In all building of Group E occupancy up to and including the 12th grade, building of Group I occupancy, boarding houses, and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

Section 805.3.1.2.2; delete entire section.

Section 805.3.1.2.3; delete entire section.

Section 805.5.2 Transoms Add note to read as follows:

B and E occupancies are not included in the list and consideration should be given to adding them depending on existing buildings stock.

Section 806.2; add an exception to read as follows:

Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of

Licensing and Regulation shall be deemed to be incompliance with the requirements of this chapter.

Section 904.1; add sentence to read as follows:

For the purpose of fire sprinkler protection and fire alarm requirements included in this section, the work area shall be extended to include at least the entire tenant space or spaces bounded by walls containing the subject work area, and if the work area includes a corridor, hallway, or other exit access, then such corridor, hallway, or other exit access shall be protected in its entirety on that particular floor level.

Section 904.1; add sentence to read as follows:

904.1.1 High-rise buildings. An automatic sprinkler system shall be provided in work areas of high-rise buildings.

Section 1401.2; change to read as follows:

1401.2 Applicability. Structures existing prior to May 1, 2016 the date of an approved final inspection issued under a code edition which is at least two published code editions preceding the currently adopted building code; or a change of occupancy, {rest of section un-changed}.

Section 1401.3.2; change to read as follows:

1401.3.2 Compliance with other codes. Buildings that are evaluated in accordance with this section shall comply with the International Fire Code.

Chapter 16 – Referenced Standards; change to read as follows:

IECC— Edition as adopted by the State of Texas International Energy Conservation Code®. .
301.2, 702.6, 708.1, 811.1, 908.1

Section 3: That, Chapter 5, Electrical Code, Article I, In General, be hereby amended by repealing Section 5-100, Adoption of the National Electrical Code, Paragraph (a) and Section 5-101, Amendments to the National Electrical Code, in their entirety and adding a new Section 5-100, Paragraph (a) and Section 5-101 to read as follows:

"***Section 5-100.*** **Adoption of the National Electrical Code.**

(a) The adoption of the National Electrical Code, 2014 Edition, as published by the National Fire Protection Association, a copy of which shall be filed in the office of the City Secretary and available for public inspection, is hereby adopted and designated as the electrical code for the City, the same as though the edition of such code were copied at length herein subject to the deletions and amendments enumerated in Chapter 5, Electrical Code, Article I, In General, Section 5-101"

"Section 5-101. Amendments to the National Electrical Code.

The following sections, paragraphs, and sentences of the *2014 National Electrical Code* as follows:

Article 100; add the following to definitions:

ENGINEERING SUPERVISION. Supervision by a Qualified State of Texas Licensed Professional Engineer engaged primarily in the design or maintenance of electrical installations.

INTERSYSTEM BONDING TERMINATION. A device that provides a means for connecting

intersystem bonding conductors for communication systems and other systems to the grounding electrode system. Bonding conductors for other systems shall not be larger than 6 AWG.

Article 110.2; change the following to read as follows:

110.2 Approval. The conductors and equipment required or permitted by this *Code* shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ.

Article 110.2; change the following to read as follows:

110.2 Approval. The conductors and equipment required or permitted by this Code shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ.

Informational Note No. 1: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of Approved, Identified, Labeled, and Listed.

Informational Note No. 2: Manufacturer's self-certification of equipment may not necessarily comply with US product safety standards as certified by a Nationally Recognized Testing Lab.

Informational Note No. 3: NFPA 790 and 791 provide an example of an approved method for qualifying a third party inspection agency.

Article 210.52(G) (1) Garages: delete the following:

(1) Garages. In each attached garage and in each detached garage with electric power. At least one receptacle outlet shall be installed for each car space.

Article 230.71(A); add the following exception:

Exception: Multi-occupant buildings. Individual service disconnecting means is limited to six for each occupant. The number of individual disconnects at one location may exceed six.

Article 240.91; delete the Article.

Article 300.11; add the following exception:

Exception: Ceiling grid support wires may be used for structural supports when the associated wiring is located in that area, not more than two raceways or cables supported per wire, with a maximum nominal metric designation 16 (trade size 1/2").

Article 310.15(B)(7); change to read as follows:

(7) This Article shall not be used in conjunction with 220.82.

Article 500.8(A)(3); change to read as follows:

500.8 Equipment. Articles 500 through 504 require equipment construction and installation standards that ensure safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to installation and maintenance.

Informational Note No. 2: Since there is no consistent relationship between explosion properties and ignition temperature, the two are independent requirements.

Informational Note No. 3: Low ambient conditions require special consideration. Explosion proof or dust-ignition proof equipment may not be suitable for use at temperatures lower than -25°C (-13°F) unless they are identified for low-temperature service. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified as Class I, Division 1 at normal ambient temperature.

(A) Suitability. Suitability of identified equipment shall be determined by one of the following:

(1) Equipment listing or labeling

(2) Evidence of equipment evaluation from a qualified testing laboratory or inspection agency concerned with product evaluation

(3) Evidence acceptable to the authority having jurisdiction such as a

manufacturer's self-evaluation or an engineering judgment signed and sealed by a qualified Licensed Professional Engineer.

Informational Note: Additional documentation for equipment may include certificates demonstrating compliance with applicable equipment standards, indicating special conditions of use, and other pertinent information.

Article 505.7(A); changed to read as follows:

505.7 Special Precaution. Article 505 requires equipment construction and installation that ensures safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to the installation and maintenance of electrical equipment in hazardous (classified) locations.

Informational Note No. 2: Low ambient conditions require special consideration. Electrical equipment depending on the protection techniques described by 505.8(A) may not be suitable for use at temperatures lower than -20°C (-4°F) unless they are identified for use at lower temperatures. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified Class I, Zones 0, 1, or 2 at normal ambient temperature.

(A) Implementation of Zone Classification System. Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified Licensed Professional Engineer in the State of Texas.

Article 517.30 Essential Electrical Systems for Hospitals; create a new (H) and add the following language:

(G) Coordination. Overcurrent protective devices serving the equipment branch of the essential electrical system shall be coordinated for the period of time that a fault's duration extends beyond 0.1 second.
Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

(H) Selective Coordination. Overcurrent protective devices serving the life safety, and critical branches of the essential electrical system shall be selectively coordinated with all supply-side overcurrent protective devices.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

Article 680.25(A); changed to read as follows:

680.25 Feeders. These provisions shall apply to any feeder on the supply side of panelboards supplying branch circuits for pool equipment covered in Part II of this article and on the load side of the service equipment or the source of a separately derived system.

(A) Wiring Methods.

(1) Feeders. Feeders shall be installed in rigid metal conduit or intermediate metal conduit. The following wiring methods shall be permitted if not subject to physical damage:

(1) Liquidtight flexible nonmetallic conduit
(2) Rigid polyvinyl chloride conduit
(3) Reinforced thermosetting resin conduit
(4) Electrical metallic tubing where installed on or within a building
(5) Electrical nonmetallic tubing where installed within a building
(6) Type MC cable where installed within a building and if not subject to corrosive environment
(7) Nonmetallic-sheathed cable
(8) Type SE cable"

Section 4: THAT, Chapter 14, Plumbing and Mechanical Code, Article I, Plumbing Code, of the City of Keller Code of Ordinances, be hereby amended by repealing Section 14-100, Plumbing Code, Section 14-110, Deletions and Amendments, Section 14-130, Fuel Gas Code, and Section 14-140, Deletions and Amendments, in their entirety and adding a new Section 14-100, Section 14-110, Section 14-130, and Section 14-140; and Chapter 14, Plumbing and Mechanical Code, Article II, Mechanical Code,

of the City of Keller Code of Ordinances, be hereby amended by repealing Section 14-200, Mechanical Code, and Section 14-210, Amendments to Mechanical Code, in their entirety and adding a new Section 14-200 and Section 14-210, to read as follows:

"***Section 14-100. Plumbing code.***

The adoption of the International Plumbing Code, 2015 Edition, as published by the International Code Council, a copy of which shall be filed in the office of the City Secretary, and available for public inspection, is hereby adopted and designated as the plumbing code for the City, the same as though the edition of such code were copied at length herein, subject to the deletions and amendments enumerated in Chapter 14, Plumbing and Mechanical Code, Article I, Plumbing Code, Section 14-110."

"***Section 14-110. Deletions and amendments.***

The following sections, paragraphs, and sentences of the *2015 International Plumbing Code* are hereby amended as follows:

Table of Contents, Chapter 7, Section 714; change to read as follows:

Section 714 Engineered Drainage Design.. . 69

Section 102.8; change to read as follows:

102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where the differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall

be considered to reference the adopted amendments. Any reference to NFPA 70 or the National Electrical Code (NEC) shall mean the Electrical Code as adopted.

Sections 106.6.2 and 106.6.3; change to read as follows:

106.6.2 Fee schedule. The fees for all plumbing work shall be as indicated in the following schedule: CITY OF KELLER FEE SCHEDULE adopted by Resolution No. 3177 approved on March 6, 2012 by the City of Keller.

106.6.3 Fee Refunds. The Building Code official shall establish a policy for authorize authorizing the refunding of fees as follows. {Delete balance of section}

Section 109; Delete entire section and insert the following:

SECTION 109 MEANS OF APPEAL

109.1 Application for appeal. Any person shall have the right to appeal a decision of the code official to the City Manager or designee established by ordinance. The board shall be governed by the enabling ordinance.

Section 305.4.1; change to read as follows:

305.4.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of [number] inches (mm) below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 12 inches (304 mm) below grade.

Section 305.7; change to read as follows:

305.7 Protection of components of plumbing system. Components of a plumbing system installed within 3 feet along alleyways, driveways, parking garages or other locations in a manner in which they could be exposed to

damage shall be recessed into the wall or otherwise protected in an approved manner.

Section 314.2.1; change to read as follows:

314.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an *approved* place of disposal. ... *{remaining text unchanged}* ... Condensate shall not discharge into a street, alley, sidewalk, rooftop, or other areas so as to cause a nuisance.

Section 409.2; change to read as follows:

409.2 Water connection. The water supply to a commercial dishwashing machine shall be protected against backflow by an air gap or backflow preventer in accordance with Section 608. (Remainder of section unchanged)

Section 412.4; change to read as follows:

412.4 Required location. Floor drains shall be installed in the following areas.

1. In public coin-operated laundries and in the central washing facilities of multiple family dwellings, the rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such drains shall have a minimum outlet of not less than three (3) inches (76mm) in diameter.

   Commercial kitchens. In lieu of floor drains in commercial kitchens, the code official may accept floor sinks.

3. Public Restrooms.

Section 419.3; change to read as follows:

419.3 Surrounding material. Wall and floor space to a point two (2) feet (610 mm) in front of a urinal lip and four (4) feet (1219 mm)

above the floor and at least two (2) feet (610 mm) to each side of the urinal shall be waterproofed with a smooth, readily cleanable, hard, nonabsorbent material.

Section 502.3; change to read as follows:

502.3 Water heaters installed in attics. Water heaters shall not be permitted in attic spaces.

Section 502.6; add Section 502.6 to read as follows:

502.6 Water heaters above ground or floor. When the attic, roof, mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Section 504.6; change to read as follows:

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.

2. Discharge through an air gap.

3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.

4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   Exception: Multiple relief devices may be installed to a single T & P discharge piping system when *approved* by the administrative authority and permitted by the manufactures

installation instructions and installed with those instructions.

5. Discharge to an indirect waste receptor or to the outdoors.

6. Discharge in a manner that does not cause personal injury or structural damage.

7. Discharge to a termination point that is readily observable by the building occupants.

8. Not be trapped.

9. Be installed so as to flow by gravity.

10. Terminate not more than 6 inches above and not less than two times the discharge pipe diameter above the floor or flood level rim of the waste receptor.

11. Not have a threaded connection at the end of such piping.

12. Not have valves or tee fittings.

13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

Section 504.7.1; change to read as follows:

Section 504.7.1 Pan size and drain to read as follows: The pan shall be not less than 11/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4. Multiple pan drains may terminate to a single discharge piping system when approved by the administrative authority

and permitted by the manufactures installation instructions and installed with those instructions.

Section 604.4; add Section 604.4.1 to read as follows:

604.4.1 State maximum flow rate. Where the State mandated maximum flow rate is more restrictive than those of this section, the State flow rate shall take precedence.

Section 606.1; delete items #4 and #5.

Section 606.2; change to read as follows:

606.2 Location of shutoff valves. Shutoff valves shall be installed in the following locations:

1. On the fixture supply to each plumbing fixture other than bathtubs and showers in one- and two-family residential occupancies, and other than in individual sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar occupancies.

   On the water supply pipe to each appliance or mechanical equipment.

Section 608.1; change to read as follows:

608.1 General. A potable water supply system shall be designed, installed and maintained in such a manner so as to prevent contamination from non-potable liquids, solids or gases being introduced into the potable water supply through cross-connections or any other piping connections to the system. Backflow preventer applications shall conform to applicable local regulations, Table 608.1, and as specifically stated in Sections 608.2 through 608.16.10.

Section 608.16.5; change to read as follows:

608.16.5 Connections to lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

Section 608.17; change to read as follows:

608.17 Protection of individual water supplies. An individual water supply shall be located and constructed so as to be safeguarded against contamination in accordance with applicable local regulations. In the absence of other local regulations, installation shall be in accordance with Sections 608.17.1 through 608.17.8.

Section 610.1; add exception to read as follows:

610.1 General. New or repaired potable water systems shall be purged of deleterious matter and disinfected prior to utilization. The method to be followed shall be that prescribed by the health authority or water purveyor having jurisdiction or, in the absence of a prescribed method, the procedure described in either AWWA C651 or AWWA C652, or as described in this section. This requirement shall apply to "on-site" or "inplant" fabrication of a system or to a modular portion of a system.

1. The pipe system shall be flushed with clean, potable water until dirty water does not appear at the points of outlet.

2. The system or part thereof shall be filled with a water/chlorine solution containing at least fifty (50) parts per million (50mg/L) of chlorine, and the system or part thereof shall be valved off and allowed to stand for twenty-four (24) hours; or the system or part thereof shall be filled with a water/chlorine solution containing at least two hundred (200) parts per million (200 mg/L) of chlorine and allowed to stand for three (3) hours.

3. Following the required standing time, the system shall be flushed with clean potable water until the chlorine is purged from the system.

4. The procedure shall be repeated where shown by a bacteriological examination that contamination remains present in the system.

   Exception: With prior approval the Code Official may wave this requirement when deemed un-necessary.

Section 703.6; Delete

Section 704.5; added to read as follows:

704.5 Single stack fittings. Single stack fittings with internal baffle, PVC schedule 40 or cast iron single stack shall be designed by a registered engineer and comply to a national recognized standard.

Section 705.11.2; change to read as follows:

705.11.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent cement

joints shall be permitted above or below ground.

Section 712.5; add Section 712.5 to read as follows:

712.5 Dual Pump System. All sumps shall be automatically discharged and, when in any "public use" occupancy where the sump serves more than ten (10) fixture units, shall be provided with dual pumps or ejectors arranged to function independently in case of overload or mechanical failure. For storm drainage sumps and pumping systems, see Section 1113.

Section 714, 714.1; change to read as follows:

SECTION 714 ENGINEERED DRAINAGE DESIGN

714.1 Design of drainage system. The sizing, design and layout of the drainage system shall be designed by a registered engineer using approved design methods.

Section 804.2; added to read as follows:

804.2 Special waste pipe, fittings, and components. Pipes, fittings, and components receiving or intended to receive the discharge of any fixture into which acid or corrosive chemicals are placed shall be constructed of CPVC, high silicone iron, PP, PVDF, chemical resistant glass, or glazed ceramic materials.

Section 903.1; change to read as follows:

903.1 Roof extension. Open vent pipes that extend through a roof shall terminate not less than six (6) inches (152 mm) above the roof. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

Section 917 Single stack vent system. Delete entire section.

Section 1002.10; delete.

Section 1003.1 Grease traps required; change to read as follows:

1003.1 Grease traps required. Interceptors and separators shall be provided, as required by Sec. 19-622 Keller code of ordinances, to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the building drainage system, the public sewer, the private sewage disposal system or the sewage treatment plant or processes.

Section 1101.8; change to read as follows:

1101.8 Cleanouts required. Cleanouts or manholes shall be installed in the storm drainage system and shall comply with the provisions of this code for sanitary drainage pipe cleanouts.

Section 1106.1; change to read as follows:

1106.1 General. The size of the vertical conductors and leaders, building storm drains, building storm sewers, and any horizontal branches of such drains or sewers shall be based on six (6) inches per hour rainfall rate.

Section 1108.3; change to read as follows:

1108.3 Sizing of secondary drains. Secondary (emergency) roof drain systems shall be sized in accordance with Section 1106. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall not have an opening dimension of less than four (4) inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drain system.

Section 1109; delete this section.

Section 1202.1; delete Exception 2."

"***Section 4-130. Fuel Gas Code.***

The Adoption of the International Fuel Gas Code, 2015 Edition as published by the International Code Council, a copy of which shall be filed in the office of the City Secretary and available for public inspection, is hereby adopted and designated as the fuel gas code for the City, the same as though the edition of such code were copied at length herein subject to the deletions and amendments enumerated in Chapter 14, Plumbing and Mechanical Code, Article I, Plumbing Code, Section 14-140."

"***Section 14-140. Deletions and Amendments.***

The following sections, paragraphs, and sentences of the *2015 International Fuel Gas Code* are hereby amended as follows:

Section 102.2; add an exception to read as follows:

> Exception: Existing dwelling units shall comply with Section 621.2.

Section 102.8; change to read as follows:

102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 8 and such codes, when specifically adopted, and standards 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 the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well.

Section 306.3; change to read as follows:

[M] 306.3 Appliances in attics. Attics containing appliances requiring *access* shall be provided . . . *{bulk of paragraph unchanged}* . . . side of the *appliance*. The

clear *access* opening dimensions shall be a minimum of twenty (20) inches by thirty (30) inches or larger where such dimensions are not large enough to allow removal of the largest *appliance*. As a minimum, for *access* to the attic space, provide one of the following:

1. A permanent stair.

2. A pull down stair with a minimum 300 lb (136 kg) capacity.

3. An *access* door from an upper floor level.

4. *Access* Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the *appliance* is capable of being serviced and removed through the required opening.

2. Where the passageway is not less than …*{bulk of section to read the same}*.

Section 306.5; change to read as follows:

[M] 306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access, a permanent interior or exterior means of access shall be provided. Permanent exterior ladders providing roof access need not extend closer than 12 feet (2438 mm) to the finish grade or floor level below and shall extend to the equipment and appliances' level service space. Such access shall . . . {bulk of section to read the same}. . . on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-

percent slope). ... {bulk of section to read the same}.

Section 306.5.1; change to read as follows:

[M] 306.5.1 Sloped roofs. Where appliances, *equipment*, fans or other components that require service are installed on roofs having slopes greater than four (4) units vertical in twelve (12) units horizontal and having an edge more than thirty (30) inches (762 mm) above grade at such edge, a catwalk at least sixteen (16) inches (406 mm)in width with substantial cleats spaced not more than sixteen (16) inches (406 mm) apart shall be provided from the roof *access* to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which *access* is required for service, repair or maintenance. The platform shall be not less than thirty (30) inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than forty-two (42) inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a twenty-one (21) inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*.

Section 306; add Section 306.7 with exception and subsection 306.7.1 to read as follows:

306.7 Prohibited use. Water heaters above ground or floor shall not be permitted.

Exception: Existing approved water heaters above ground or floor may continue to be used, in accordance with the code provisions in effect when installed, when approved by the Code Official unless an unsafe condition is determined to exist.

When the attic, roof, mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by

a stairway or permanent ladder fastened to the building.

Section 401.5; add a second paragraph to read as follows:

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an approved tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING
1/2 to 5 psi gas pressure
Do Not Remove"

Section 402.3; add an exception to read as follows:

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of one-half (1/2) inch (18 EHD).

Section 404.12; change to read as follows:

404.12 Minimum burial depth. Underground piping systems shall be installed a minimum depth of eighteen (18) inches (458 mm)top of pipe below grade.

Section 406.1; change to read as follows:

406.1 General. Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this code. The permit holder shall make the applicable tests prescribed in Sections 406.1.1 through 406.1.5 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the piping system is ready for testing. The equipment, material, power and labor necessary for the inspections and test shall be furnished by the permit holder

and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

Section 406.4; change to read as follows:

406.4 Test pressure measurement. Test pressure shall be measured with a monometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made.

Section 406.4.1; change to read as follows:

406.4.1 Test pressure. The test pressure to be used shall be no less than three (3) psig (20 kPa gauge), or at the discretion of the *building official*, the piping and valves may be tested at a pressure of at least six (6) inches of mercury, measured with a manometer or slope gauge. For tests requiring a pressure of three (3) psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half (3-1/2) inches, a set hand, 1/10 pound incrementation and pressure range not to exceed six (6) psi for tests requiring a pressure of three (3) psig. For tests requiring a pressure of ten (10) psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half (3-1/2) inches, a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed twenty (20) psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than two hundred (200) inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds two hundred (200) inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not

less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing.

Section 406.4.2; change to read as follows:

406.4.2 Test duration. Test duration shall be held for a length of time satisfactory to the Code Official, but in no case for less than fifteen (15) minutes. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the Code Official, but in no case for less than thirty (30) minutes.

Section 409.1; add Section 409.1.4 to read as follows:

409.1.4 Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an *approved* termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the valve. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

Section 410.1; add a second paragraph and exception to read as follows:

Access to regulators shall comply with the requirements for *access* to appliances as specified in Section 306.

Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

Section 621.2; add exception as follows:

621.2 Prohibited use. One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit.

Exception: Existing *approved* unvented heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when *approved* by the Code Official unless an unsafe condition is determined to exist as described in Section 108.7.

Section 624.1.1; change to read as follows:

624.1.1 Installation requirements. The requirements for water heaters relative to *access*, sizing, relief valves, drain pans and scald protection shall be in accordance with the *International Plumbing Code.*"

"***Section 14-200. Mechanical code.***

The adoption of the International Mechanical Code, 2015 Edition, as published by the International Code Council, a copy of which shall be filed in the office of the City Secretary, and available for public inspection, is hereby adopted and designated as the mechanical code for the City, the same as though the edition of such code were copied at length herein, subject to the deletions and amendments enumerated in Chapter 14, Plumbing and Mechanical Code, Article I, Amendments to Mechanical Code, Section 14-210."

"***Section 14-210. Amendments to Mechanical Code.***

The following sections, paragraphs, and sentences of the *2015 International Mechanical Code* are hereby amended as follows:

Section 102.8; change to read as follows:

102.8 Referenced codes and standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards 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 the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 or the National Electrical Code (NEC) shall mean the Electrical Code as adopted.

Section 306.3; change to read as follows:

306.3 Appliances in attics. Attics containing appliances requiring access shall be provided . . . *{bulk of paragraph unchanged}* . . . side of the appliance. The clear access opening dimensions shall be a minimum of twenty (20) inches by thirty (30) inches (508 mm by 762 mm), or larger where such dimensions are not large enough to allow removal of the largest appliance. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.

2. A pull down stair with a minimum three hundred (300) pound (136 kg) capacity.

3. An access door from an upper floor level.

4. Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed… *{remainder of section unchanged}*

Section 306.5; change to read as follows:

306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access and appliances are installed on roofs or elevated structures at an aggregate height exceeding sixteen (16) feet (4877 mm), such access shall be provided by a permanent approved means of access. Permanent exterior ladders providing roof access need not extend closer than twelve (12) feet (2438 mm) to the finish grade or floor level below and shall extend to the equipment and appliances' level service space. Such access shall . . . *{language unchanged}*. . . on roofs having a slope greater than four (4) units vertical in twelve (12) units horizontal (thirty-three (33) percent slope). ... *{remaining language unchanged}*.

Section 306.5.1; change to read as follows:

306.5.1 Sloped roofs. Where appliances, equipment, fans or other components that require service are installed on roofs having slopes greater than four (4) units vertical in twelve (12) units horizontal (25-percent slope) or greater and having an edge more than thirty (30) inches (762 mm) above grade at such edge, a catwalk at least sixteen (16) inches (406 mm) in width with substantial cleats spaced not more than sixteen (16) inches (406 mm) apart shall be provided from the roof access to a level platform at the appliance. The level platform shall be

provided on each side of the appliance to which access is required for service, repair or maintenance. The platform shall be not less than thirty (30) inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than forty-two (42) inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a twenty-one (21) inch (533 mm) diameter sphere and shall comply with the loading requirements for guards specified in the International Building Code.

Section 306; add Section 306.6 to read as follows:

306.6 Water heaters above ground or floor. When the mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Exception: A max ten (10) gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and a water heater is installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.

Section 307.2.3; amend Item 2 to read as follows:

2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection. However, the conspicuous point shall not create a hazard such

as dripping over a walking surface or other areas so as to create a nuisance.

Section 403.2.1; add an Item 5 to read as follows:

5. Toilet rooms within private dwellings that contain only a water closet, lavatory or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

Section 501.3; add an exception to read as follows:

501.3 Exhaust discharge. The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a nuisance and not less than the distances specified in Section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic, crawl space, or be directed onto walkways.

Exceptions:

1. Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics.

2. Commercial cooking recirculating systems.

3. Where installed in accordance with the manufacturer's instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled domestic ductless range hoods shall not be required to discharge to the outdoors.

4. Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.

Section 607.5.1; change to read as follows:

607.5.1 Fire Walls. Ducts and air transfer openings permitted in fire walls in accordance with Section 705.11 of the International Building Code shall be protected with listed fire dampers installed in accordance with their listing. For hazardous exhaust systems see Section 510.1-510.9 IMC."

Section 5: THAT, all other ordinances in conflict herewith be hereby repealed.

Section 6: THAT, violation of any of the provisions of this Ordinance herein adopted by reference shall be deemed unlawful and punishable by a fine not exceeding two thousand dollars ($2,000.00) for any violation of all such provisions that govern fire safety, public health, and sanitation and not exceeding five hundred dollars ($500.00) for all other violations. Each day such violation shall continue shall constitute a separate offense and be punishable hereunder.

Section 7: This ordinance shall be cumulative of all provisions of ordinances of the City of Keller, Texas, except where provisions of this Ordinance are in direct conflict with the provisions of another ordinance, in which event the conflicting provisions of the other ordinance are hereby repealed.

Section 8: THAT, if any section, paragraph, subdivision, clause, phrase, or provision of this Ordinance, or application thereof, is held to be invalid or unconstitutional by a Court of competent jurisdiction, such holding shall not affect the validity of the remaining provisions of this Ordinance.

Section 9: All rights and remedies of the City of Keller are expressly saved as to any and all violations of the said provisions of the Code of Ordinances, City of Keller, Texas, as amended, or any other ordinances affecting such code which have accrued at the time of

the effective date of this Ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this Ordinance, but may be prosecuted until final disposition by the courts.

Section 10: THAT, the City Secretary is hereby authorized and directed to cause publication of the descriptive caption and penalty clause of this Ordinance as an alternative method of publication provided by State Law.

Section 11: THAT, this Ordinance shall become effective June 1, 2016, following its adoption and publication provided by State Law.

AND IT IS SO ORDAINED.

Passed and approved by a vote of 4 to 1 on this the 15th day of March, 2016.

CITY OF KELLER, TEXAS

BY: _____
Mark Mathews, Mayor

ATTEST:

_____
Sheila Stephens, City Secretary

Approved as to Form and Legality:

_____
L. Stanton Lowry, City Attorney