CHAPTER 7

BUILDINGS

ARTICLE I - AUTHORITY

Sec. 7-1. Building official.

Whenever reference is made to the duties of "officials" named within the 2015 *International Building Code*, 2015 *International Existing Building Code,* 2015 *International Residential Code*, 2015 *International Plumbing Code*, 2015 *International Mechanical Code*, 2015 *International Fuel Gas Code*, 2015 *International Energy Conservation Code*, and 2015 *International Swimming Pool and Spa Code* adopted in this Chapter or within this Chapter, that designated official of Temple, Texas, who has duties corresponding to those of the named official shall be deemed to be the responsible official to enforce the provisions of the applicable code.

ARTICLE II - BUILDING BOARD OF APPEALS

Sec. 7-2. Building Board of Appeals.

(a) *Creation and Appointment.* A Board is hereby established to be called the Building Board of Appeals, which will consist of 13 members. The City Council must appoint all Board members. The City Council must appoint, when possible, two architects or engineers, one person from the mechanical or air conditioning trade, two master plumbers, two persons from the building industry which may include a general contractor, engineer or other person at large from the building industry, two licensed master electricians, one licensed journeyman electrician, one representative of the electric distributor, and two persons at large representing no specific trade.

(b) *Term of Office.* All members shall be appointed for four year terms, except that the two licensed master electricians, one licensed journeyman electrician, and one representative of the electric distributor appointed in 2014 shall have an initial term of one year. After their initial one year term, those Board members will be appointed for four year terms. The City Council will fill vacancies by appointment. When any member of the Board has been absent from the regular meeting of such Board for three (3) or more consecutive times, without just cause, as determined by the Board or the City Council, the member's office shall become vacant, and the chairman or acting chairman of the Board must certify such record of absence and vacancy to the City Council which will appoint a new member to fill the vacancy.

(c) *Procedures and Quorum.* Seven members of the Board constitute a quorum. In varying the application of any provisions of this Code or in modifying an order of the Building Official, Plumbing Official, or Electrical Official, affirmative votes of the majority present, but not less than five affirmative votes, are required. A Board member is prohibited from taking any action in a case in which he has a conflict of interest as that term may be defined in the

City Charter, in Chapter 171 of the Texas Local Government Code, as amended, or in other applicable laws or statutes.

(d) *Records.* The Building Official will act as secretary of the Building Board of Appeals and make a detailed record of all its proceedings. The record must set forth the reasons for the Board's decisions, the vote for each participating member, the absence of a member, and any failure of a member to vote.

(e) *Procedure.* The Board must establish rules and regulations for its own procedures not inconsistent with the provisions of this Chapter. The Board shall meet at regular intervals to be determined by the chairman, or, in any event, the Board shall meet within ten (10) days after notice of appeal has been received.

(f) *Advisory Responsibility of the Board.* The Board shall submit to the City Council such recommendations for the improvement and revision of the 2015 *International Building Code*, 2015 *International Existing Building Code,* 2015 *International Mechanical Code*, 2015 *International Residential Code*, 2015 *International Plumbing Code*, 2015 *International Fuel Gas Code*, 2015 *International Energy Conservation Code, 2015 International Swimming Pool and Spa Code,* and the City's currently adopted fire code as it may deem necessary and proper in light of the development of new materials, methods, or techniques which would result in better and more economical installations and to keep abreast of new developments in applicable portions of the same. All requests for use of materials or methods not covered in this Code must be fully supported by factual evidence or prior approval from a recognized testing agency or such other impartial qualified authority acceptable to the Board.

(g) The Building Board of Appeals must carry out all functions and responsibilities assigned to the Board in Chapter 10 of the City Code. The process for appealing a decision of the Electrical Official to the Building Board of Appeals is set forth in Chapter 10.

(h) All of the functions of the Historic Preservation Board as set forth in Chapter 17 of the City Code are hereby assigned and must be performed by the Building Board of Appeals.

Sec. 7-3. Appeals; Time limit.

(a) Whenever the Building Official, or his designee, rejects or refuses to approve the mode or manner of construction purposed to be followed, or materials to be used in the erection or alteration of a building or structure, or when it is claimed that the provisions of this Code do not apply, or that an equally good more desirable form of construction can be employed in any specific case, or when it is claimed that the true intent and meaning of this Code, or any of the regulations thereunder have been misconstrued or wrongly interpreted, the owner of such building or structure, or his duly authorized agent, may appeal from the decision of the Building Official or his designee to the Building Board of Appeals. Notice of appeal shall be in writing and filed with the Building Official within ninety (90) days after decision is rendered by the Building Official. A fee of ten dollars ($10.00) must

accompany the notice of appeal. The Building Official will provide notice of appeal forms for use by the public.

(b) In case of a building or structure, which, in the opinion of the Building Official is unsafe or dangerous, the Building Official may, in his order, limit the time for such appeal to a shorter period.

Sec. 7-4. Decisions of the Building Board of Appeals.

(a) *Variances and Modifications.*

(1) The Building Board of Appeals, when so appealed to and after hearing, may grant a variance to the application of any provision of the 2015 *International Building Code*, 2015 *International Existing Building Code,* 2015 *International Residential Code*, 2015 *International Plumbing Code*, 2015 *International Mechanical Code,* 2015 *International Fuel Gas Code,* 2015 *International Energy Conservation Code,* 2015 *International Swimming Pool and Space Code,* and the City's currently adopted fire code to any particular case when, in its opinion, the enforcement thereof would do manifest injustice, and the interpretation of the Building Official or his designee should be modified or reversed.

(2) A decision of the Building Board of Appeals to vary the application of any provision of this Code or to modify an order the Building Official or his designee must specify the manner in which the variance or modification is made, the conditions upon which it is made, and the reason for the variance or modification.

(b) *Decisions.*

(1) Every decision of the Building Board of Appeals is final, subject, however, to such remedy as any aggrieved party might have at law or in equity. The decision must be in writing and must indicate the record vote of the Board members. Every decision must be promptly filed in the Office of the Building Official and will be open to public inspection; a certified copy must be sent by mail or otherwise to the appellant and a copy kept publicly posted in the Office of the Building Official for two (2) weeks after filing.

(2) The Building Board of Appeals must, in every case, reach a decision without unreasonable or unnecessary delay.

(3) If a decision of the Building Board of Appeals reverses or modifies a refusal, order, or disallowance of the Building Official or his designee or varies the application of any provisions of this Code, the Building Official or his designee must immediately act in accordance with such decision.

Sec. 7-5 – 7-20. Reserved.

ARTICLE III - BUILDING CODE

Sec. 7-21. Building Code.

The City of Temple adopts, as part of its Building Regulations, the 2015 *International Building Code,* as it now exists and as it may be revised from time to time, including appendices. A copy of the 2015 *International Building Code* is maintained in the office of the Building Official.

Sec. 7-22. Amendments.

The City of Temple adopts the following amendments to the 2015 *International Building Code,* which amendments are maintained in the office of the Building Official:

(a) *Electrical Code references*. All references to the "ICC Electrical Code" found within the 2015 *International Building Code* shall be deleted and replaced with references to the 2017 *National Electrical Code* and the City of Temple, Electrical Code, Chapter 10.

(b) *Title.* Chapter 1, "Scope and Administration," Section 101, "General," Subsection 101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(c) *Permits*. Chapter 1, "Scope and Administration," Section 105, "Permits," Subsection 105.2, "Work exempt from a permit," is amended as follows:

Delete sections 1, 2, 4, and 6.

(d) *Fees.* Chapter 1, "Scope and Administration," Section 109, "Fees," Subsection 109.2, "Schedule of permit fees," shall be amended as follows:

109.2. Schedule of permit fees.

(1) On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the City Council.

(2) The City Council will adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Building Code*, a copy of which shall be maintained in the office of the Building Official.

(e) *Board of Appeals*. Chapter 1, "Scope and Administration," Section 113, "Board of Appeals," shall be deleted and replaced with Article II, "Building Board of Appeals," found within this Chapter.

(f) *Electrical*. Chapter 27, "Electrical," shall be deleted in its entirety and all references shall be replaced with the 2017 National Electrical Code and Chapter 10, Electrical Code, of the City of Temple Code of Ordinances.

ARTICLE IV - EXISTING BUILDING CODE

Sec. 7-23. Adopted.

The City of Temple adopts as part of its building regulations the 2015 *International Existing Building Code* as it now exists and as it may be revised from time to time. A copy of the 2015 *International Existing Building Code* is maintained in the office of the Building Official.

Sec. 7-24. Amendments.

The City of Temple adopts the following amendments to the *International Existing Building Code,* which amendments are maintained in the office of the Building Official:

(a) *Title.* Chapter 1, "Scope and Administration," Section 101, "General," Subsection 101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(b) *Annual permit records.* Chapter 1, "Scope and Administration," Section 105, "Permits," Subsection 105.1.1, "Annual permit," shall be deleted in its entirety.

(c) *Annual permit records.* Chapter 1, "Scope and Administration, Section 105, "Permits," Subsection 105.1.2, "Annual permit records," shall be deleted in its entirety.

(d) *Work exempt from permit.* Chapter 1, "Scope and Administration," Section 105, "Permits," Section 105.2, "Work exempt from permit," Subsection "Building" shall be amended as follows:

(1) Subsection 1 shall be deleted.

(e) *Fees.* Chapter 1, "Scope and Administration," Section 108, "Fees," Subsection 108.2, "Schedule of permit fees," shall be amended as follows:

108.2. Schedule of permit fees.

(1) On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the City Council.

(2) The City Council will adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Existing Building Code*, a copy of which shall be maintained in the office of the Building Official.

(f) *Board of Appeals.*

Chapter 1, “Scope and Administration,” Section 112, “Board of Appeals,” shall be deleted and replaced with Article II, “Building Board of Appeals,” found within this Chapter.

Sec. 7-25 – 7-40. Reserved

ARTICLE V - MECHANICAL CODE

Sec. 7-41. Adopted.

The City of Temple adopts as part of its building regulations the 2015 *International Mechanical Code* as it now exists and as it may be revised from time to time. A copy of the 2015 *International Mechanical Code* is maintained in the office of the Building Official.

Sec. 7-42. Amendments.

The City of Temple adopts the following amendments to the 2015 *International Mechanical Code,* which amendments are maintained in the office of the Building Official:

(a) *Title.* Chapter 1, "Scope and Administration," Section 101, "General," Subsection 101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(b) *Fee schedule.* Chapter 1, "Scope and Administration," Section 106, "Permits," Subsection 106.5, "Fees," Subsection, 106.5.2, "Fee schedule," shall be amended by removing the subsection in its entirety and replacing it with the following language:

106.5.2 Fee schedule.

The City Council shall adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Mechanical Code*, a copy of which shall be maintained in the office of the Building Official.

(c) *Board of Appeals.* Chapter 1, "Scope and Administration," Section 109, "Means of Appeal," shall be deleted and replaced with Article II, “Building Board of Appeals,” found within this Chapter.

Sec. 7-43 – 7-60. Reserved.

ARTICLE VI - INTERNATIONAL RESIDENTIAL CODE

Sec. 7-61. Adopted.

The City of Temple adopts as part of its building regulations the 2015 *International Residential Code* as it now exists and as it may be revised from time to time. A copy of the 2015 *International Residential Code* is maintained in the office of the Building Official.

Sec. 7-62. Amendments.

The City of Temple adopts the following amendments to the 2015 *International Residential Code,* which amendments are maintained in the office of the Building Official:

(a) *Electrical code references*. All references to the "ICC Electrical Code" and the 2014 *National Electrical Code* found within the 2015 *International Residential Code* shall be deleted and replaced with references to the 2017 *National Electrical Code* and the City of Temple, Electrical Code, Chapter 10.

(b) *Title.* Chapter 1, "Scope and Administration," Section R101, "General," Subsection R101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(c) *Work exempted from permits*. Chapter 1, "Scope and Administration," Section R105, "Permits," Subsection R105.2, "Work exempt from permit," Subsection "Building" shall be amended as follows:

(1) Subsections 1, 2, 4, 5, and 10 shall be deleted.

(2) Subsection (3) shall be amended as follows:

The reference to four feet shall be replaced with two feet (609.6 mm).

(d) *Manufacturer's installation instructions.* Chapter 1, "Scope and Administration," Section R106, "Construction Documents," Subsection R106.1.2, "Manufacturer's installation instructions," shall be amended by deleting the words "on the job site."

(e) *Construction documents available.* Chapter 1, "Scope and Administration," Section R106, "Construction Documents," Subsection R106.3.1, "Approval of construction documents," shall be amended to read as follows:

When the Building Official issues a permit, the construction documents shall be made available and shall be open to inspection by the Building Official or his or her authorized representative.

(f) *Fees.* Chapter 1, "Scope and Administration," Section R108, "Fees," Subsection R108.2, "Schedule of permit fees," shall be amended as follows:

R108.2. Schedule of permit fees.

(1) On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the City Council.

(2) The City Council will adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Residential Code*, a copy of which shall be maintained in the office of the Building Official.

(g) *Frame and Masonry Inspection.* Chapter 1, "Scope and Administration," Section R109 "Inspections," Subsection R109.1.4, **"**Frame and masonry inspection," shall be amended to read as follows:

R109.1.4 Frame inspection.

Inspection of framing shall be made after the roof, framing, firestopping, draftstopping, and bracing are in place and after the plumbing, mechanical, and electrical rough inspections are approved.

(h) *Certificate of Occupancy*. Chapter 1, "Scope and Administration," Section R110, "Certificate of Occupancy," shall be amended by deleting Subsections R110.1; R110.3; R110.4; and R110.5

(i) *Board of Appeals*. Chapter 1, "Scope and Administration," Section R112, "Board of Appeals," shall be deleted and replaced with Article II, "Building Board of Appeals," found within this Chapter.

(j) *Attics*. Chapter 2, "Definitions," Section R202, "Definitions," "Attic, Habitable," shall be amended by deleting the phrase "or unfinished area."

(k) *Self-closing devices.* Chapter 3, "Building Planning," Section R302, "Fire-resistant Construction," Subsection R302.5, "Dwelling-garage opening and penetration protection," Subsection R302.5.1, "Opening protection," shall be amended by deleting the phrase, "equipped with a self-closing device."

(l) *Handrails*. Chapter 3, "Building Planning," Section R311, "Means of Egress," Subsection R311.8.3, "Handrails required," Subsection R311.8.3.1, "Height," shall be amended to delete 34 inches (864 mm) and 38 inches (965 mm) and replace with 28 inches (711.2 mm) and 36 inches (914.4 mm) respectively.

(m) *Guard Requirement.* Chapter 3, "Building Planning," Section R312, "Guards and Window Fall Protection," Subsection R312.1, "Guards," Subsection R312.1.1, "Where required," shall be amended to read as follows:

Guards shall be located along open-side walking surfaces of all decks, porches, and balconies, including stairs, ramps, and landings, that are located more than 30 inches (762

mm) measured vertically to the floor or *grade* below. Insect screening shall not be considered as a *guard.*

(n) *Window Fall Protection Devices.* Chapter 3, "Building Planning," Section R312, "Guards and Window Fall Protection," Subsection R312.2, "Window fall protection," shall be amended to read as follows:

R312.2 Window fall protection.

Where window fall protection devices are provided, the devices shall be installed in accordance with Section R312.2.1.

R312.2.1 Window opening control devices.

Window opening control devices shall comply with ASTM F2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit to less than the area required by Section R310.2.1.

(o) *Residential fire sprinkler systems.* Chapter 3, "Building Planning," Section R313, "Automatic Fire Sprinkler Systems," shall be deleted in its entirety.

(p) *Exceptions to mezzanine openness*. Chapter 3, "Building Planning," Section R325, "Mezzanines," Subsection R325.5, "Openness," shall be amended by deleting the exceptions to the Subsection R325.5.

(q) *Foundation Anchorage.* Chapter 4, “Foundations,” Section R403, “Footings,” Subsection R403.1, “General,” Subsection R403.1.6, “Foundation anchorage,” shall be amended as follows:

(1) The sentence, "Bolts shall extend a minimum of 7 inches (178 mm) into concrete or grouted cells of concrete masonry units," shall be deleted and replaced with the sentence: "Bolts shall extend a minimum of eight inches (203.2 mm) in length into concrete or grouted cells of concrete masonry units."

(2) An exception shall be added to the list of exceptions and shall read as follows:

3. Where the basic wind speed in accordance with Figure R301.2(4)A does not exceed 115 miles per hour (51 m/s), the seismic design category is A or B and Method GB in accordance with Section R602.10 is used for a braced wall line on the interior of the dwelling, anchor bolts shall not be required for the wood sole plates of the braced wall panels. In these cases, positive anchorage with approved fasteners must be used.

(r) *Foundation Elevation*. Chapter 4, “Foundations,” Section R403, “Footings,” Subsection R403.1, “General,” Subsection R403.1.7, “Footings on or adjacent to slopes,” Subsection

R403.1.7.3, “Foundation elevation,” shall be deleted and persons must comply with the City’s drainage ordinance.

(s) *Truss design drawings*. Chapter 5, “Floors,” Section R502, “Wood Floor Framing,” Subsection R502.11, “Wood trusses,” Subsection R502.11.4, “Truss design drawings,” shall be amended by deleting the words “and approved” and replacing it with the phrase “on request.”

(t) *Weepholes*. Chapter 7, “Wall Covering,” Section R703, “Exterior Covering,” Subsection R703.8, “Anchored stone and masonry veneer, general,” Subsection R703.8.6, “Weepholes” shall be amended so as to delete the phrase, “33 inches (838 mm),” and replace with phrase “48 inches (1219.2 mm).”

(u) *Insulation and Fenestration Requirements by Component*. Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.1 (R402.1), "General (Prescriptive)," Subsection N1102.1.2 (R402.1.2), "Insulation and fenestration criteria," Table N1102.1.2 (R402.1.2), "Insulation and Fenestration Requirements by Component," shall be amended by:

(1) Deleting the value "38" from the cell located in the Climate Zone 2 Row (Row 3) and the Ceiling *R*-Value Column (Column 5) and replacing it with the value "30."

(2) Adding a Climate Zone row named, "2 Compliance Path #2" below the Climate Zone 2 Row to read as follows:

2 Compliance Path #2 [j]	0.40	0.65	0.25	30	13	4/6	13	0	0	0

(3) Deleting the Wood Frame Wall *R*-Value column and replacing it with the following column:

WOOD FRAME WALL *R*-VALUE
13
13
20 or 13 + 5[h,i]
20 or 13 + 5[h,i]
20 or 13 + 5[h,i]
20+5 or 13+10[h,i]
20+5 or 13+10[h,i]

(4) Adding a footnote "j" to the table's footnote section to read as follows:

j. When using Climate Zone 2 Compliance Path #2, the following requirements must also be met:

1. Maximum duct leakage of 6 CFM/100ft^2 at 25 Pa
2. Maximum building leakage of 6 ACH50 at 50 Pa
3. Minimum A/C SEER rating of 16 for all cooling systems

(v) *Air leakage.* Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.4 (R402.4), "Air leakage (Mandatory) shall be amended by:

(1) Deleting the wording, "(Mandatory)," from the Subsection N1102.4 (R402.4).

(2) Removing the references to "Sections N1102.4.1 through N110.2.4.5" and replacing them with references to "Sections N1102.4.1 through N1102.4.4."

(3) Adding the following exception before N1102.4.1 (R402.4.1), "Building thermal envelope:"

Exception. Two-family dwelling units and townhouses shall be permitted to comply with the 2015 *International Energy Conservation Code* Subsection C402.5.

(w) *Equivalent U-factors.* Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.1 (R402.1), "General (Prescriptive)," Subsection N1102.1.4 (R402.1.4), "*U*-Factor alternative," Table N1102.1.4 (R402.1.4), "Equivalent *U*-Factors" shall be amended by:

(1) Deleting the value "0.030" from the cell located in the Climate Zone 2 Row (Row 3) and the Ceiling *U*-Factor Column (Column 4) and replacing it with the value "0.035."

(2) Adding a Climate Zone row named, "2 Compliance Path #2" below the Climate Zone 2 Row to read as follows:

2 Compliance Path #2 [d]	0.40	0.65	0.035	0.084	0.165	0.064	0.360	0.477

(3) Deleting the value "0.050" from the cell located in the Climate Zone 5 and Marine 4 Row (Row 6) and the Basement Wall *U*-Factor column (Column 8) and replacing it with the value "0.059."

(4) Adding a footnote "d" to the table's footnote section to read as follows:

d. when using Climate Zone 2 Compliance Path #2, the following requirements must also be met:
1. Maximum duct tightness of 6 CFM/100ft^2 at 25 Pa
2. Maximum building tightness of 6 ACH50 at 50 Pa
3. Minimum A/C SEER rating of 16 for all systems

(x) *Installation.* Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.4 (R402.4), "Air leakage (Mandatory), Subsection

N1102.4.1 (R402.4.1), "Building thermal envelope," Subsection N1102.4.1.1 (R402.4.1.1) shall be amended by adding the wording, "(Mandatory)," after the word "Installation" in the title of Subsection N1102.4.1.1 (R402.4.1.1).

(y) *Testing for air leakage*. Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.4 (R402.4), "Air leakage (Mandatory), Subsection N1102.4.1 (R402.4.1), "Building thermal envelope," Subsection N1102.4.1.2 (R402.4.1.2), "Testing," shall be amended by deleting the first sentence of Subsection N1102.4.1.2 (R402.4.1.2) and replacing it with a sentence that reads as follows:

The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding six air changes per hour in Climate Zones 1 through 8.

(z) *Leakage rate.* Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.4 (R402.4), "Air leakage (Mandatory), Subsection N1102.4.1 (R402.4.1), "Building thermal envelope," shall be amended by adding an additional subsection to read as follows:

N1102.4.1.3 (R402.4.1.3) Leakage rate (Prescriptive).

The building or dwelling unit shall have an air leakage rate not exceeding six air changes per hour in Climate Zones 1 through 8 when tested in accordance with Subsection N1102.4.1.2.

(aa) *Energy Efficiency.* Chapter 11, "Energy Efficiency," Section N1104 (R404), "Electrical Power and Lighting Systems," Subsection N1104.1 (R404.1), "Lighting Equipment (Mandatory)," shall be deleted in its entirety unless mandated by state law or regulations.

(bb) *Specifications for the Standard Reference and Proposed Designs*. Chapter 11, "Energy Efficiency," Section N1105 (R405), "Simulated Performance Alternative (Performance)," Subsection N1105.5 (R405.5), "Calculation procedure," Table N1105.5.2(1) [R405.5.2(1)], "Specifications for the Standard Reference and Proposed Designs," shall be amended by changing the below specified rows of the table to read as follows:

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Vertical fenestration other than opaque doors	Total area[h] = (a) 15% of the conditioned floor area	As proposed
	Orientation: equally distributed to four cardinal compass orientations (N, E, S, & W)	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed

	SHGC: as specified in Table N1102.1.2 except that for climates with no requirement (NR) SHGC = 0.40 shall be used.	As proposed
Heating systems [d,e]	Fuel type: same as proposed designed efficiencies Electric: air-source heat pump with prevailing federal minimum standards Non-electric furnaces: natural gas furnace with prevailing federal minimum standards Non-electric boilers: natural gas boiler with prevailing federal minimum standards	As proposed As proposed As proposed As proposed
Cooling systems [d, f]	Fuel type: Electric Efficiency: in accordance with prevailing federal minimum standards Capacity: sized in accordance with Section N1103.7	 As proposed As proposed
Service water heating [d,e,f]	Fuel type: same as proposed design Efficiency: in accordance with prevailing federal minimum standards Use: gal/day = 30 + 10 x Nbr Tank temperature: 120°F	As proposed Same as standard reference Same as standard reference
Air exchange rate	Air leakage rate of 6 air changes per hour in Climate Zones 1 through 8 at a pressure of 0.2 inches w.g. (50 Pa). The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than: 0.01 x CFA + 7.5 x (Nbr +1) Where CFA = conditioned floor area NBR = number of bedrooms	For residences that are not tested the same air leakage rate as the standard reference design. For tested residences, the measured air exchange rate.[a] The mechanical ventilation rate shall be in addition to the air leakage rate and shall be as proposed.

	Energy recovery shall not be assumed for mechanical ventilation	

(cc) *Mandatory requirement for code programs.* Chapter 11, "Energy Efficiency," Section N1101, "General," Subsection N1101.4 (R102.1.1), "Above code programs," shall be amended by deleting the following sentence, "The requirements identified as "mandatory" in this chapter, as applicable, shall be met."

(dd) *Projection factor.* Chapter 11, "Energy Efficiency," Section N1101, "General," Subsection N1101.6 (R202), "Defined terms," shall be amended by adding the definition of "Projection Factor" as follows:

PROJECTION FACTOR. The ratio of the horizontal depth of an 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.

(ee) *Glazed fenestration SHGC exception.* Chapter 11, "Energy Efficiency," Section N1102 (R402), "Building Thermal Envelope," Subsection N1102.3 (R402.3), "Fenestration (Prescriptive)," Subsection N1102.3.2 (R402.3.2), "Glazed fenestration SHGC," shall be amended by adding the following language and table at the end of section after the "Exception" paragraph:

N1102.3.2.1 (R402.3.2.1) Glazed fenestration SHGC exception.

In Climate Zones 1 through 4, permanently shaded vertical fenestration shall be permitted to satisfy the SHGC requirements. The projection factor of an overhang, eave, or permanently attached shading device shall be greater than or equal to the value listed in Table N1102.3.2.1 (R402.2.3.2.1) for the appropriate orientation. The minimum projection shall extend beyond each side of the glazing a minimum of 12 inches (304.8 mm). Each orientation shall be rounded to the nearest cardinal orientation (+/-45 degrees or 0.79 rad) for purposes of calculations and demonstrating compliance.

Table N1102.3.2.1 (R402.3.2.1)
MINIMUM PROJECTION FACTOR REQUIRED BY ORIENTATION FOR SHGC EXCEPTION

ORIENTATION	PROJECTION FACTOR
North	≥ 0.40
South	≥ 0.20
East	≥ 0.50
West	≥ 0.50

a. *For the north orientation, a vertical projection located on the west-edge of the fenestration with equivalent PF ≥ 0.15 shall also satisfy the minimum projection factor requirement.*

(ff) *Maximum Energy Rating Index.* Chapter 11, "Energy Efficiency," Section N1106 (R406), "Energy Rating Index," Subsection N1106.4 (R406.4), "ERI-based compliance," Table N1106.4 (R406.4), "Maximum Energy Rating Index," shall be amended by:

(1) Deleting the value "52" from the cell located in the Climate Zone 2 Row (Row 3) and the Energy Rating Index Column (Column 2) and replacing it with the values, "65, 63, 59[a]."

(2) Adding a footnote "a" to the table's footnote section to read as follows:

a. Up to August 31, 2019, an Energy Rating Index (ERI) of 65 or lower is required, from September 1, 2019 to August 31, 2022, an ERI of 63 or lower is required, and on or after September 1, 2022, an ERI of 59 or lower is required.

(gg) *Private garages.* Chapter 24, "Fuel Gas," Section G2408 (305), "Installation," Subsection G2408.3 (305.5), "Private garages," shall be amended by deleting the subsection in its entirety.

(hh) *Electrical*. Part VIII, "Electrical," shall be deleted in its entirety and all references shall be replaced with the 2017 National Electrical Code and Chapter 10, Electrical Code, of the City of Temple Code of Ordinances.

Sec. 7-63 – 7-80. Reserved.

ARTICLE VII - PLUMBING CODE

Sec. 7-81. Adopted.

The City of Temple adopts as part of its building regulations the 2015 *International Plumbing Code* as it now exists and as it may be revised from time to time. A copy of the 2015 *International Plumbing Code* is maintained in the office of the Building Official.

Sec. 7-82. Amendments.

The City of Temple adopts the following amendments to the 2015 *International Plumbing Code*, which amendments are maintained in the Office of the Building Official:

(a) *Title.* Chapter 1, "Scope and Administration," Section 101, "General," Subsection 101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(b) *Fee schedule.* Chapter 1, "Scope and Administration," Section 106, "Permits," Subsection 106.6, "Fees," Subsection, 106.6.2, "Fee schedule," shall be amended by removing the subsection in its entirety and replacing it with the following language:

106.6.2 Fee schedule.

The City Council shall adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Plumbing Code*, a copy of which shall be maintained in the office of the Building Official.

(c) *Board of Appeals.* Chapter 1, "Scope and Administration," Section 109, "Means of Appeal," shall be deleted and replaced with Article II, "Building Board of Appeals," found within this Chapter.

(d) *Multi-chapter amendments.* Chapter 6, "Water Supply and Distribution," Chapter 7, "Sanitary Drainage," and Chapter 9, "Vents," shall be amended as follows:

(1) All sinks and washer connections must have a cleanout at or near the foot of each vented waste or soil stack.

(2) A dishwashing machine must not be directly connected to a drainage system.

(3) Cold water distribution ASTM D3309-85B may be used in readily accessible places only and may not be used in walls, in or under slab foundations, or in attics.

(e) *Connections to lawn irrigation systems.* Chapter 6, "Water Supply and Distribution," Section 608, "Protection of Potable Water Supply," Subsection 608.16, "Connections, to the potable water system," Subsection 608.16.5, "Connections to lawn irrigation systems," shall be amended by deleting this Subsection in its entirety.

(1) All irrigation systems shall be governed by Article XI, "Landscape Irrigation Standards," of this Chapter.

(f) *Sewer yard line cleanouts.* Chapter 7, "Sanitary Drainage," Section 708, "Cleanouts," Subsection 708.1, "Cleanouts required," shall be amended by adding the following sentence at the end of the section:

A sewer yard line cleanout must be installed at the junction of a sewer yard line and the City sewer.

(g) *Sewer yards.* Chapter 9, "Vents," Section 909, "Fixture Vents," Subsection 909.1, "Distance of trap from vent," shall be amended by adding the following language after the first paragraph in the subsection:

The distance from water closet to vent stack shall be 5 feet. If the depth of the flow line of sewer yard is more than 24 inches at any point, double wyes or combination wyes & 1/8

bends are to be used. A sewer yard line cleanout shall be installed at junction of sewer yard line and City sewer.

(h) *Fixture Vents.* Chapter 9, "Vents," Section 909, "Fixture Vents," Subsection 909.1, "Distance of trap from vent," Table 909.1, "Maximum Distance of Fixture Trap from Vent," shall be amended by deleting the table in its entirety and replacing it with the table below:

TABLE 909.1

MAXIMUM DISTANCE OF FIXTURE TRAP FROM VENT

SIZE OF FIXTURE (inches)	SIZE OF TRAP (inches)	SLOPE (inch per foot)	DISTANCE FROM TRAP (feet)
1 ¼	1 ¼"	¼	4
1 ½	1 ¼	¼	4
1 ½	1 ½	¼	4
2	1 ½	¼	5
2	2	¼	5
*3	3	1/8	5
*4	4	1/8	5

For SI: 1 inch = 25.4mm, 1 foot = 304.8 mm, 1 inch per foot = 83.3 mm/m.

Sec. 7-83. Plumbing Installation or Maintenance by Homeowner.

Nothing in this Chapter shall prevent a homeowner from installing or maintaining plumbing within his own property boundaries, providing such plumbing work is done by himself and is used exclusively by him or his family. Such privilege does not convey the right to violate any of the provisions of this Chapter, nor is it to be construed as exempting any such property owner from obtaining a permit and paying the required fees thereof.

Section 7-84. Persons Who May Obtain a Permit.

Permits may be issued *only* to the following persons:

(a) A master plumber licensed by the State of Texas of Plumbing Examiners;

(b) A property owner, for plumbing work to be done by the owner in a building owned and occupied by the owner as owner's homestead;

(c) An appliance dealer or their employee, for the purpose of connecting appliances to existing piping installation; and

(d) A licensed landscape architect or irrigator.

ARTICLE VIII - SWIMMING POOL CODE

Sec 7-85. Adopted.

The City of Temple adopts as part of its building regulations, the 2015 *International Swimming Pool and Spa Code* as it exists now and as it may be revised from time to time. A copy of the 2015 *International Swimming Pool and Spa Code* is maintained in the office of the Building Official.

Sec. 7-86. Amendments.

The City of Temple adopts the following amendments to the 2015 *International Swimming Pool and Spa Code*, which amendments are maintained in the Office of the Building Official:

(a) *Title.* Chapter 1, "Scope and Administration," Section 101, "General," Subsection 101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(b) *Fee schedule.* Chapter 1, "Scope and Administration," Section 105, "Permits," Subsection 105.6, "Fees," Subsection, 105.6.2, "Fee schedule," shall be amended by removing the subsection in its entirety and replacing it with the following language:

106.6.2 Fee schedule.

The City Council shall adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Swimming Pool and Spa Code*, a copy of which shall be maintained in the office of the Building Official.

(c) *Building Board of Appeals.* Chapter 1, "Scope and Administration," Section 108, "Means of Appeal," shall be deleted and replaced with Article II, “Building Board of Appeals,” found within this Chapter.

(d) *Location of pool.* Chapter 3, "General Compliance," Section 301, "General," shall be amended by adding a Subsection 301.2 that shall read as follows:

301.2 Location.

No portion of a swimming pool outside a building shall be located at a distance of less than five (5) feet from any side or rear property line, measured from the property line to the outside wall of the pool. Pumps, filters, and pool water disinfection equipment installations shall be located in conformity with the zoning regulations controlling accessory buildings.

(e) *Subsection title change.* Chapter 3, "General Compliance," Section 305, "Barrier Requirements," Subsection 305.2, "Outdoor swimming pools and spas," shall be amended by the amending the title of Subsection 305.2 to read:

"**305.2 Outdoor swimming pools and spas and indoor swimming pools**."

(f) *Barrier heights.* Chapter 3, "General Compliance," Section 305, "Barrier Requirements," Subsection 305.2, "Outdoor swimming pools and spas," Subsection 305.2.1, "Barrier height and clearances," Paragraph 1 (regarding height requirements) shall be amended to read as follows:

1. The top of the barrier shall be not less than 72 inches (1,830 mm) above grade where measured on the side of the barrier that faces away from a public pool or spa. The top of the barrier shall not be less than 60 inches (1,524 mm) above grade where measured on the side of the barrier that faces away from a residential pool or spa. Such heights shall exist around the entire perimeter of the barrier and for a distance of 36 inches (914 mm) measured horizontally from the outside of the required barrier.

(g) *Onground residential pool structure.* Chapter 3, "General Compliance," Section 305, "Barrier Requirements," Subsection 305.5, "Onground residential pool structure as a barrier," Paragraph 1, shall be amended to read as follows:

1. Where only the pool wall serves as the barrier, the bottom of the wall is on grade, the top of the wall is not less than 60 inches (1,524 mm) above grade for the entire perimeter of the pool, the wall complies with the requirements of Section 305.2 and the pool manufacturer allows the wall to serve as a barrier.

Sec. 7-85 – 7-93. Reserved.

ARTICLE IX - GAS CODE

Sec. 7-94. Adopted.

The City of Temple adopts as part of its building regulations, the 2015 *International Fuel Gas Code* as it exists now and as it may be revised from time to time. A copy of the 2015 *International Fuel Gas Code* is maintained in the office of the Building Official.

Sec. 7-95. Amendments.

The City of Temple adopts the following amendments to the 2015 *International Fuel Gas Code*, which amendments are maintained in the Office of the Building Official:

(a) *Title.* Chapter 1, "Scope and Administration," Section 101, "General," Subsection 101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(b) *Fee schedule.* Chapter 1, "Scope and Administration," Section 106 (IFCG), "Permits," Subsection 106.6, "Fees," Subsection, 106.6.2, "Fee schedule," shall be amended by removing the subsection in its entirety and replacing it with the following language:

106.6.2 Fee schedule.

The City Council shall adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Fuel Gas Code*, a copy of which shall be maintained in the office of the Building Official.

(c) *Building Board of Appeals.* Chapter 1, "Scope and Administration," Section 109 (IFGC), "Means of Appeal," shall be deleted and replaced with Article II, "Building Board of Appeals," found within this Chapter.

(d) *Air Testing Lines*. Chapter 4, "Gas Piping Instillations," Section 406 (IFGS), "Inspection, Testing and Purging," Subsection 406.4 "Test pressure measurement," shall be amended by adding the following language after the first paragraph of the section:

The test with a diaphragm gage on gas piping and service lines shall be made by closing all openings and subjecting the pipes to an air pressure of 3 to 5 pounds per a square inch (psi) for at least fifteen (15) minutes under a constant temperature. After this test, if the test was successful, the piping shall be considered sufficiently tight.

ARTICLE X - ENERGY CODE

Sec. 7-96. Adopted.

The City of Temple adopts as part of its building regulations the 2015 *International Energy Conservation Code* as it now exists and as it may be revised from time to time. A copy of the 2015 *International Energy Conservation Code* is maintained in the office of the Building Official.

Sec. 7-97 Amendments.

The City of Temple adopts the following amendments to the 2015 *International Energy Conservation Code*, which amendments are maintained in the Office of the Building Official:

(a) *Title.* Chapter 1, "Scope and Administration," Section C101, "Scope and General Requirements," Subsection C101.1, "Title," shall be amended by inserting the phrase, "The City of Temple," as the name of jurisdiction.

(b) *Fee schedule.* Chapter 1, "Scope and Administration," Section C107, "Fees," Subsection C107.2, "Schedule of permit fees," shall be amended by removing the subsection in its entirety and replacing it with the following language:

C107.2 Schedule of permit fees.

The City Council shall adopt by resolution a schedule of the permit fees required or authorized by the 2015 *International Energy Conservation Code*, a copy of which shall be maintained in the office of the Building Official.

(c) *Board of Appeals*. Chapter 1, "Scope and Administration," Section C109, "Board of Appeals," shall be deleted and replaced with Article II, "Building Board of Appeals," found within this Chapter.

(d) Chapter 4 (RE), "Residential Energy Efficiency," Section R402, "Building Thermal Envelope," Subsection R402.4, "Air leakage (Mandatory)," Subsection R402.4.1, "Building thermal envelope," Subsection, "R402.4.1.2, "Testing," shall be amended by adding the following exception after the first full paragraph of the section:

Building envelope tightness and installed insulation shall be considered acceptable when the items listed in Table R402.4.1.1, applicable to the method of construction, are field inspected by the City. Where approved or required by the Building Official, an approved third party, independent from the installer, shall inspect and approve the air barrier, thermal envelope, and insulation installation per this section.

Sec. 7-98 – 7-99. Reserved.

ARTICLE XI - LANDSCAPE IRRIGATION STANDARDS

Sec. 7-100. Definitions.

The following words and terms, when used in this Article, have the following meanings, unless the context clearly indicates otherwise:

(a) *Air gap* - A complete physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

(b) *Backflow prevention* - The mechanical prevention of reverse flow, or back siphonage, of non-potable water from an irrigation system into the potable water source.

(c) *Backflow prevention assembly* - Any assembly used to prevent backflow into a potable water system. The type of assembly used is based on the existing or potential degree of health hazard and backflow condition.

(d) *Completion of irrigation system installation* - When the landscape irrigation system has been installed, all minimum standards met, all tests performed, and the irrigator is satisfied that the system is operating correctly.

(e) *Consulting* - The act of providing advice, guidance, review, or recommendations related to landscape irrigation systems.

(f) *Cross-connection* - An actual or potential connection between a potable water source and an irrigation system that may contain contaminates or pollutants or any source of water that has been treated to a lesser degree in the treatment process.

(g) *Design* - The act of determining the various elements of a landscape irrigation system that will include, but not be limited to, elements such as collecting site specific information, defining the scope of the project, defining plant watering needs, selecting and laying out emission devices, locating system components, conducting hydraulics calculations, identifying any local regulatory requirements, or scheduling irrigation work at a site. Completion of the various components will result in an irrigation plan.

(h) *Design pressure* - The pressure that is required for an emission device to operate properly. Design pressure is calculated by adding the operating pressure necessary at an emission device to the total of all pressure losses accumulated from an emission device to the water source.

(i) *Emission device* - Any device that is contained within an irrigation system and that is used to apply water. Common emission devices in an irrigation system include, but are not limited to, spray and rotary sprinkler heads, and drip irrigation emitters.

(j) *Employed* - Engaged or hired to provide consulting services or perform any activity relating to the sale, design, installation, maintenance, alteration, repair, or service to irrigation systems. A person is employed if that person is in an employer-employee relationship as defined by Internal Revenue Code, 26 U.S.C., §3212(d) based on the behavioral control, financial control, and the type of relationship involved in performing employment related tasks.

(l) *Health hazard* - A cross-connection, potential contamination hazard, or other situation involving any substance that can cause death, illness, spread of disease, or has a high probability of causing such effects if introduced into the potable water supply, including an irrigation system that involves any chemical additives that may, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects and an irrigation system that is also served by an on-site sewage facility (septic system).

(m) *Hydraulics* - The science of dynamic and static water; the mathematical computation of determining pressure losses and pressure requirements of an irrigation system.

(n) *Installer* - A person who actually connects an irrigation system to a private or public raw or potable water supply system or any water supply, who is licensed according to Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

(o) *Irrigation inspector* - A person who inspects irrigation systems and performs other enforcement duties for a municipality or water district as an employee or as a contractor and is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

(p) *Irrigation plan* - A scaled drawing of a landscape irrigation system which lists required information, the scope of the project, and represents the changes made in the installation of the irrigation system.

(q) *Irrigation services* - Selling, designing, installing, maintaining, altering, repairing, servicing, permitting, providing consulting services regarding, or connecting an irrigation system to a water supply.

(r) *Irrigation system* - An assembly of component parts that is permanently installed for the controlled distribution and conservation of water to irrigate any type of landscape vegetation in any location, or to reduce dust or control erosion. This term does not include a system that is used on or by an agricultural operation as defined by Texas Agricultural Code, §251.002.

(s) *Irrigation technician* - A person who works under the supervision of a licensed irrigator to install, maintain, alter, repair, service, or supervise installation of an irrigation system, including the connection of such system in or to a private or public raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

(t) *Irrigation zone* - A subdivision of an irrigation system with a matched precipitation rate based on plant material type (such as turf, shrubs, or trees), microclimate factors (such as sun/shade ratio), topographic features (such as slope) and soil conditions (such as sand, loam, clay, or combination) or for hydrological control.

(u) *Irrigator* - A person who sells, designs, offers consultations regarding, installs, maintains, alters, repairs, services, or supervises the installation of an irrigation system, including the connection of such system to a private or public raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30.

(v) *Landscape Irrigation* - The science of applying the necessary amount of water to promote or sustain healthy growth of plant material or turf.

(w) *License* - An occupational license that is issued by the Texas Commission on Environmental Quality under Title 30, Texas Administrative Code, Chapter 30 to an individual that authorizes the individual to engage in an activity that is covered by Title 30, Texas Administrative Code, Chapter 30.

(x) *Mainline* - A pipe within an irrigation system that delivers water from the water source to the individual zone valves.

(y) *Maintenance checklist* - A document made available to the irrigation system's owner or owner's representative that contains information regarding the operation and maintenance of the irrigation system, including, but not limited to: checking and repairing the irrigation

system, setting the automatic controller, checking the rain or moisture sensor, cleaning filters, pruning grass and plants away from irrigation emitters, using and operating the irrigation system, the precipitation rates of each irrigation zone within the system, any water conservation measures currently in effect from the water purveyor, the name of the water purveyor, a suggested seasonal or monthly watering schedule based on current evapotranspiration data for the geographic region, and the minimum water requirements for the plant material in each zone based on the soil type and plant material where the system is installed.

(aa) *Master valve* - A remote control valve located after the backflow prevention assembly that controls the flow of water to the irrigation system mainline.

(bb) *Matched precipitation rate* - The condition in which all sprinkler heads within an irrigation zone apply water at the same rate**.**

(cc) *New installation* - An irrigation system installed at a location where one did not previously exist.

(dd) *Pass-through contract* - A written contract between a contractor or builder and a licensed irrigator or exempt business owner to perform part or all of the irrigation services relating to an irrigation system.

(ee) *Potable water* - Water that is suitable for human consumption.

(ff) *Pressure Vacuum Breaker* - A backflow prevention assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. Also known as a Pressure Vacuum Breaker Back-siphonage Prevention Assembly

(gg) *Reclaimed water* - Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use, such as landscape irrigation.

(hh) *Records of landscape irrigation activities* - The irrigation plans, contracts, warranty information, invoices, copies of permits, and other documents that relate to the installation, maintenance, alteration, repair, or service of a landscape irrigation system.

(ii) *Reduced Pressure Principle Backflow Prevention Assembly* - A backflow prevention assembly containing two independently acting approved check valves together with a hydraulically operating mechanically independent pressure differential relief valve located between the two check valves and below the first check valve.

(kk) *Supervision* - The on-the-job oversight and direction by a licensed irrigator who is fulfilling his or her professional responsibility to the client or employer in compliance with local or state requirements. Also a licensed installer working under the direction of a licensed irrigator or beginning January 1, 2015, an irrigation technician who is working

under the direction of a licensed irrigator to install, maintain, alter, repair, or service an irrigation system.

(ll) *Water conservation* - The design, installation, service, and operation of an irrigation system in a manner that prevents the waste of water, promotes the most efficient use of water, and applies the least amount of water that is required to maintain healthy individual plant material or turf, reduce dust, and control erosion.

(mm) *Zone flow* - A measurement, in gallons per minute or gallons per hour, of the actual flow of water through a zone valve, calculated by individually opening each zone valve and obtaining a valid reading after the pressure has stabilized. For design purposes, the zone flow is the total flow of all nozzles in the zone at a specific pressure.

(nn) *Zone valve* - An automatic valve that controls a single zone of a landscape irrigation system.

Sec. 7-101. Valid license required.

(a) Any person who connects an irrigation system to the water supply within the City or the City's extraterritorial jurisdiction, commonly referred to as the ETJ, must hold a valid license, as defined by Title 30, Texas Administrative Code, Chapter 30 and required by Chapter 1903 of the Texas Occupations Code or as defined by Title 22 of the Texas Administrative Code, Chapter 365 and required by Chapter 1301 of the Texas Occupations Code, all as amended.

(b) ***Exemptions.*** A property owner is not required to be licensed in accordance with Texas Occupations Code, Title 12, §1903.002(c)(1), as amended, if he or she is performing irrigation work in a building or on a premises owned or occupied by the person as the person's home. A property owner who installs an irrigation system must meet the standards contained in Title 30, Texas Administrative Code, Chapter 344, as amended, regarding spacing, water pressure, spraying water over impervious materials, rain or moisture shut-off devices or other technology, backflow prevention, and isolation valves. A property owner must obtain a permit from the City, submit an irrigation plan, use an individual with a valid license to install backflow prevention assemblies, and submit test results of the backflow prevention assembly to the City. The City may, at any point, adopt more stringent requirements for a property owner who installs an irrigation system. A person may also be exempt from the licensing requirements of this Section if they meet another exemption under Texas Occupations Code §1903.002, as amended.

Sec. 7-102. Permit required.

(a) Any person installing an irrigation system within the territorial limits or extraterritorial jurisdiction of the City is required to obtain a permit from the City. Any applicant must submit a plan with the application demonstrating that the plan and irrigation system meet the requirements of this Chapter. Any plan approved for a permit must be in compliance with the requirements of this Chapter. The City will administer the permit program and

approve tested systems. Permit formats and processes may be amended from time-to-time by the City.

(b) A person is exempt from the requirement set forth in subsection (a) if the person is installing any of the following:

(1) an on-site sewage disposal system, as defined by Section 366.002, Texas Health and Safety Code; or

(2) an irrigation system:

a. used on or by an agricultural operation as defined by Section 251.002, Texas Agriculture Code; or

b. connected to a groundwater well used by the property owner for domestic use.

Sec. 7-103. Backflow prevention methods and assemblies.

(a) Any irrigation system that is connected to the potable water supply must be connected through a backflow prevention method approved by the Texas Commission on Environmental Quality (TCEQ). The backflow prevention assembly must be approved by the American Society of Sanitary Engineers, the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, the Uniform Plumbing Code, or any other laboratory that has equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies. The backflow prevention assembly must be installed in accordance with the laboratory approval standards or if the approval does not include specific installation information, the manufacturer's current published recommendations.

(b) In new installations of landscape irrigation systems one of the following methods must be used to prevent backflow:

(1) Double-check-valve backflow prevention assemblies (DCVAs) may only be used where no health hazards exist;

a. DCVAs may not be used on premises containing an on-site sewage facility or an irrigation system that uses injectors or pumps to apply fertilizer or other agricultural chemicals.

b. If a DCVA is installed below ground:

(i) the DCVA must be in a secure enclosure;

(ii) test cocks must be plugged, except when the double check valve is being tested;

(iii) test cock plugs must be threaded, water-tight, and made of non-ferrous material;

(iv) a y-type strainer is installed on the inlet side of the double check valve;

(v) there must be a clearance between any fill material and the bottom of the double check valve to allow space for testing and repair; and

(vi) there must be space on the side of the double check valve to test and repair the double check valve.

(2) Reduced pressure principle backflow prevention assemblies may be used if:

a. the assembly is installed at a minimum of 12 inches above ground in a location that will ensure that the assembly will not be submerged; and

b. drainage is provided for any water that may be discharged through the assembly relief valve.

(3) Pressure vacuum breakers may be used if:

a. no back-pressure condition will occur; and

b. the assembly is installed at a minimum of 12 inches above any sprinklers as measured from the retracted position from the top of the sprinkler.

(c) If an irrigation system is connected to a potable water supply through a pressure vacuum breaker or reduced pressure principle backflow assembly and includes an automatic master valve on the system, the automatic master valve must be installed on the discharge side of the backflow prevention assembly.

(d) Existing irrigation systems that have backflow assemblies installed that are not in compliance with Subsection 7-103(b) may remain on a premises; however, when replacement is required, property owners must replace the assembly with a backflow assembly that complies with Subsection 7-103(b).

(e) Backflow prevention assemblies used in irrigation systems must be tested in accordance with the testing requirements under Chapter 38 of the City's Code of Ordinance, Article VI, Cross Connection Control.

(f) The irrigator must ensure the backflow prevention assembly is tested by a person holding a current Backflow Prevention Assembly Tester (BPAT) license issued by TCEQ prior to being placed in service and provide the test results to the local water purveyor and the irrigation system's owner or owner's representative within ten business days of the assembly's testing.

Sec. 7-104. Specific conditions and cross-connection control.

(a) Before any chemical is added to an irrigation system connected to the potable water supply, the irrigation system must be connected through a reduced pressure principle backflow prevention assembly.

(b) Connection of any additional water source to an irrigation system that is connected to the potable water supply can only be done if the irrigation system is connected to the potable water supply through a reduced pressure principle backflow prevention assembly.

(c) Irrigation system components with chemical additives induced by aspiration, injection, or emission system connected to any potable water supply must be connected through a reduced pressure principle backflow prevention assembly.

(d) If any new irrigation system is designed or installed on a property that is served by an on-site sewage facility, as defined in Title 30, Texas Administrative Code, Chapter 285, as amended, then:

(1) all irrigation piping and valves must meet the separation distances from the on-site sewage facility system as required for a private water line in Title 30, Texas Administrative Code, Section 285.91(10), as amended;

(2) any connections using a private or public potable water source that is not the City's potable water system must be connected to the water source through a reduced pressure principle backflow prevention assembly as defined in Title 30, Texas Administrative Code, Section 344.1, as amended; and

(3) any water from the irrigation system that is applied to the surface of the area utilized by the on-site sewage facility system must be controlled on a separate irrigation zone or zones so as to allow complete control of any irrigation to that area to ensure that there is no excess water that would prevent the on-site sewage facility system from operating effectively.

Sec. 7-105. Water conservation.

All irrigation systems must be designed, installed, maintained, altered, repaired, serviced, and operated in a manner that will promote water conservation as defined in Section 7-100.

Sec. 7-106. Irrigation plan design: minimum standards.

(a) An irrigator must prepare an irrigation plan for each site where a new irrigation system will be installed. A paper or electronic copy of the irrigation plan must be on the job site at all times during the installation of the irrigation system. An irrigator must provide a drawing showing the actual installation of the irrigation system to the irrigation system owner after all new irrigation system installations. During the installation of the irrigation system,

variances from the original plan may be authorized by the licensed irrigator if the variance from the plan does not:

(1) diminish the operational integrity of the irrigation system;

(2) violate any requirements of this Chapter; and

(3) go unnoted in red on the irrigation plan.

(b) The irrigation plan must include complete coverage of the area to be irrigated. If a system does not provide complete coverage of the area to be irrigated, it must be noted on the irrigation plan.

(c) All irrigation plans used for construction must be drawn to scale. The plan must include, at a minimum, the following information:

(1) the irrigator's seal, signature, and date of signing;

(2) all major physical features and the boundaries of the areas to be watered;

(3) a North arrow;

(4) a legend;

(5) the zone flow measurement for each zone;

(6) location and type of each:

a. controller; and

b. sensor (for example, but not limited to, rain, moisture, wind, flow, or freeze);

(7) location, type, and size of each:

a. water source, such as, but not limited to a water meter and point(s) of connection;

b. backflow prevention assembly;

c. water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip, and micro-sprays;

d. valve, including but not limited to, zone valves, master valves, and isolation valves;

e. pressure regulation component; and

f. main line and lateral piping;

(8) the scale used; and

(9) the design pressure.

Sec. 7-107. Design and installation: minimum requirements.

(a) Manufacturer's published performance limitations. No irrigation design or installation may require the use of any component, including the water meter, in a way which exceeds the manufacturer's published performance limitations for the component.

(b) Spacing.

(1) The maximum spacing between emission devices must not exceed the manufacturer's published radius or spacing of the devices. The radius or spacing is determined by referring to the manufacturer's published specifications for a specific emission device at a specific operating pressure.

(2) New irrigation systems must not utilize above-ground spray emission devices in landscapes that are less than 48 inches not including the impervious surfaces in either length or width and which contain impervious pedestrian or vehicular traffic surfaces along two or more perimeters. If pop-up sprays or rotary sprinkler heads are used in a new irrigation system, the sprinkler heads must direct flow away from any adjacent surface and shall not be installed closer than four inches from a hardscape, such as, but not limited to, a building foundation, fence, concrete, asphalt, pavers, or stones set with mortar.

(3) Narrow paved walkways, jogging paths, golf cart paths, or other small areas located in cemeteries, parks, golf courses, or other public areas may be exempted from this requirement if the runoff drains into a landscaped area.

(c) Water pressure. Emission devices must be installed to operate at the minimum and not above the maximum sprinkler head pressure as published by the manufacturer for the nozzle and head spacing that is used. Methods to achieve the water pressure requirements include, but are not limited to, flow control valves, a pressure regulator, or pressure compensating spray heads.

(d) Piping. Piping in irrigation systems must be designed and installed so that the flow of water in the pipe will not exceed a velocity of five feet per second for polyvinyl chloride (PVC) pipe.

(e) Irrigation Zones. Irrigation systems shall have separate zones based on plant material type, microclimate factors, topographic features, soil conditions, and hydrological requirements.

(f) Matched precipitation rate. Zones must be designed and installed so that all of the emission devices in that zone irrigate at the same precipitation rate.

(g) Impervious materials. Irrigation systems may not spray water over surfaces made of concrete, asphalt, brick, wood, stones set with mortar, or any other impervious material, such as, but not limited to, walls, fences, sidewalks, streets, etc.

(h) Master valve. When provided, a master valve must be installed on the discharge side of the backflow prevention assembly on all new installations.

(i) PVC pipe primer solvent. All new irrigation systems that are installed using PVC pipe and fittings must be primed with a colored primer prior to applying the PVC cement in accordance with the *Uniform Plumbing Code* (Section 316) or the 2015 *International Plumbing Code* (Section 605, Materials, Joints and Connections).

(j) Rain or moisture shut-off devices or other technology. All new automatically controlled irrigation systems must include sensors or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall. Rain or moisture shut-off technology must be installed according to the manufacturer's published recommendations. Repairs to existing automatic irrigation systems that require replacement of an existing controller must include a sensor or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall.

(k) Isolation valve. All new irrigation systems must include an isolation valve between the water meter and the backflow prevention assembly.

(l) Depth coverage of piping. Piping in all irrigation systems must be installed according to the manufacturer's published specifications for depth coverage of piping.

(1) If the manufacturer has not published specifications for depth coverage of piping, the piping must be installed to provide minimum depth coverage of six inches of select backfill, between the top of the pipe and the natural grade of the topsoil. All portions of the irrigation system that fail to meet this standard must be noted on the irrigation plan. If the area being irrigated has rock at a depth of six inches or less, select backfill may be mounded over the pipe. Mounding must be noted on the irrigation plan and discussed with the irrigation system owner or owner's representative to address any safety issues.

(2) If a utility, man-made structure, or roots create an unavoidable obstacle, which makes the six-inch depth coverage requirement impractical, the piping must be installed to provide a minimum of two inches of select backfill between the top of the pipe and the natural grade of the topsoil.

(3) All trenches and holes created during installation of an irrigation system must be backfilled and compacted to the original grade.

(m) Wiring irrigation systems.

(1) Underground electrical wiring used to connect an automatic controller to any electrical component of the irrigation system must be listed by Underwriters Laboratories as acceptable for burial underground.

(2) Electrical wiring that connects any electrical components of an irrigation system must be sized according to the manufacturer's recommendation.

(3) Electrical wire splices which may be exposed to moisture must be waterproof as certified by the wire splice manufacturer.

(4) Underground electrical wiring that connects an automatic controller to any electrical component of the irrigation system must be buried with a minimum of six inches of select backfill.

(n) Water contained within the piping of an irrigation system is deemed to be non-potable. No pipes or connections used for drinking or domestic water use, such as, but not limited to, filling swimming pools or decorative fountains, may be connected to an irrigation system. If a hose bib (an outdoor water faucet that has hose threads on the spout) is connected to an irrigation system for the purpose of providing supplemental water to an area, the hose bib must be installed using a quick coupler key on a quick coupler installed in a covered purple valve box and the hose bib and any hoses connected to the bib must be labeled, "Non-potable. Not safe for drinking." An isolation valve must be installed upstream of a quick coupler connecting a hose bib to an irrigation system.

(o) Beginning January 1, 2010, either a licensed irrigator or a licensed irrigation technician must be on-site at all times while the landscape irrigation system is being installed. When an irrigator is not on-site, the irrigator is responsible for ensuring that a licensed irrigation technician is on-site to supervise the installation of the irrigation system.

Sec. 7-108. Completion of irrigation system installation.

(a) Upon completion of the irrigation system installation, the irrigator or irrigation technician who provided supervision for the on-site installation must:

(1) perform a final "walk through" with the irrigation system's owner or the owner's representative to explain the operation of the system;

(2) obtain the signature of the irrigation system's owner or owner's representative on the maintenance checklist, if feasible, and sign, date, and seal the checklist. If the irrigation system's owner or owner's representative is unwilling or unable to sign the maintenance checklist, the irrigator must note the time and date of the refusal on the irrigation system's owner or owner's representative's signature line. The irrigator must give the irrigation system owner or owner's representative the original maintenance checklist and maintain a duplicate copy of the maintenance checklist in the irrigator's records. The items on the maintenance checklist must include, but are not limited to:

a. the manufacturer's manual for the automatic controller, if the system is automatic;

b. a seasonal (spring, summer, fall, and winter) watering schedule based on either current/real time evapotranspiration or monthly historical reference evapotranspiration (historical ET) data, monthly effective rainfall estimates, plant landscape coefficient factors, and site factors;

c. a list of components, such as the nozzle or pump filters and other like components, that require maintenance and the recommended frequency for the service; and

d. the statement, "This irrigation system has been installed in accordance with all applicable state and local laws, ordinances, rules, regulations, and orders. I have tested the system and determined that it has been installed according to the Irrigation Plan and is properly adjusted for the most efficient application of water at this time;"

(3) affix a permanent sticker to each automatic controller installed that contains the irrigator's name, license number, company name, telephone number, and the dates of the warranty period. If the irrigation system is manual, the sticker must be affixed to the original maintenance checklist. The information contained on the sticker must be printed with waterproof ink; and

(4) provide the irrigation plan indicating the actual installation of the system to the irrigation system's owner or owner's representative.

Sec. 7-109. Maintenance, alteration, repair, or service of irrigation systems.

(a) The licensed irrigator is responsible for all work that the irrigator performed during the maintenance, alteration, repair, or service of an irrigation system during the warranty period. The irrigator or business owner is not responsible for the professional negligence of any other irrigator who subsequently performs any maintenance, alterations, repairs, or service on the same irrigation system.

(b) All trenches and holes created during the maintenance, alteration, repair, or service of an irrigation system must be returned to the original grade with compacted select backfill.

(c) Colored PVC pipe primer solvent must be used on all pipes and fittings used in the maintenance, alteration, repair, and service of an irrigation system in accordance with the Uniform Plumbing Code (Section 316) or the 2015 *International Plumbing Code* (Section 605).

(d) When maintenance, alteration, repair, or service of an irrigation system involves excavation work at the water meter or backflow prevention assembly, an isolation valve must be installed if an isolation valve is not present.

Sec. 7-110. Reclaimed water.

Reclaimed water may be utilized in landscape irrigation systems if:

(a) there is no direct contact with edible crops, unless the crop is pasteurized before consumption;

(b) the irrigation system does not spray water across property lines onto land that does not belong to the irrigation system's owner;

(c) the irrigation system is installed using purple components;

(d) the domestic potable water line is connected using an air gap or a reduced pressure principle backflow prevention assembly, in accordance with Title 30, Texas Administrative Code, Section 290.47(f), as amended;

(e) a minimum of an eight inch by eight inch sign, in English and Spanish, is prominently posted on or in the area that is being irrigated, that reads, "RECLAIMED WATER – DO NOT DRINK" and "AGUA DE RECUPERACIÓN – NO BEBER;" and

(f) backflow prevention on the reclaimed water supply line is in accordance with the regulations of the City.

Sec. 7-111. Advertisement requirements.

(a) All vehicles used in the performance of irrigation installation, maintenance, alteration, repair, or service must display the irrigator's license number in the form of "LI_____" in a contrasting color of block letters at least two inches high, on both sides of the vehicle.

(b) All forms of written and electronic advertisements for irrigation services must display the irrigator's license number in the form of "LI_____." Any form of advertisement, including business cards, and estimates that display an entity's or individual's name other than that of the licensed irrigator must also display the name of the licensed irrigator and the licensed irrigator's license number. Trailers that advertise irrigation services must display the irrigator's license number.

(c) The name, mailing address, and telephone number of the TCEQ must be prominently displayed on a legible sign and displayed in plain view for the purpose of addressing complaints at the permanent structure where irrigation business is primarily conducted and irrigation records are kept.

Sec. 7-112. Contracts.

(a) All contracts to install an irrigation system must be in writing and signed by each party and must specify the irrigator's name, license number, business address, current business telephone numbers, the date that each party signed the agreement, the total agreed price,

and contain the statement, "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's website is: www. tceq.state.tx.us." All contracts must include the irrigator's seal, signature, and date.

(b) All written estimates, proposals, bids, and invoices relating to the installation or repair of an irrigation system(s) must include the irrigator's name, license number, business address, current business telephone number(s), and the statement: "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ) (MC-178), P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's web site is: www.tceq.state.tx.us."

(c) An individual who agrees by contract to provide irrigation services as defined in Title 30, Texas Administrative Code, Section 344.30 (relating to License Required), as amended, must hold an irrigator license issued under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations), as amended, unless the contract is a pass-through contract as defined in Title 30, Texas Administrative Code, Section 344.1(36) (relating to Definitions), as amended. If a pass-through contract includes irrigation services, then the irrigation portion of the contract can only be performed by a licensed irrigator. If an irrigator installs a system pursuant to a pass-through contract, the irrigator will still be responsible for providing the irrigation system's owner or owner's representative a copy of the warranty and all other documents required under this Chapter. A pass-through contract must identify by name and license number the irrigator that will perform the work and must provide a mechanism for contacting the irrigator for irrigation system warranty work.

(d) The contract must include the dates that the warranty is valid.

Section 7-113. Warranties for Systems.

(a) On all installations of new irrigation systems, an irrigator must present the irrigation system's owner or owner's representative with a written warranty covering materials and labor furnished in the new installation of the irrigation system. The irrigator will be responsible for adhering to terms of the warranty. If the irrigator's warranty is less than the manufacturer's warranty for the system components, then the irrigator must provide the irrigation system's owner or the owner's representative with applicable information regarding the manufacturer's warranty period. The warranty must include the irrigator's seal, signature, and date. If the warranty is part of an irrigator's contract, a separate warranty document is not required.

(b) An irrigator's written warranty on new irrigation systems must specify the irrigator's name, business address, and business telephone number(s), must contain the signature of the irrigation system's owner or owner's representative confirming receipt of the warranty and must include the statement: "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 130897, Austin, Texas 78711-3087. TCEQ's website is: www.tceq.state.tx.us."

(c) On all maintenance, alterations, repairs, or service to existing irrigation systems, an irrigator must present the irrigation system's owner or owner's representative a written document that identifies the materials furnished in the maintenance, alteration, repair, or service. If a warranty is provided, the irrigator must abide by the terms. The warranty document must include the irrigator's name and business contact information.

Sec. 7-114. Duties and responsibilities of the City designees.

Persons designated by the City to inspect irrigation systems or enforce this article have the authority to:

(a) verify that the appropriate permits have been obtained for irrigation systems and that the irrigators, irrigation system installers, or irrigation technicians, as applicable, are licensed;

(b) inspect irrigation systems;

(c) determine that irrigation systems comply with the requirements of this Chapter;

(d) determine that the appropriate backflow prevention assemblies were installed, tested, and the test results were provided to the City;

(e) investigate complaints related to irrigation system installation, maintenance, alteration, repairs, or service of irrigation systems, and advertisement of irrigation services; and

(f) maintain records according to this Chapter.

Sec. 7-115. Items not covered by this ordinance.

Any item not covered by this Chapter and required by law will be governed by the Texas Occupations Code, the Texas Water Code, Title 30 of the Texas Administrative Code, both as amended, and any other applicable state statute or regulation or TCEQ rule.

Sec. 7-116. Fees.

The City Council may create a schedule of fees for obtaining and renewing an irrigation system permit. These fees will be in amounts sufficient to cover the City's costs in issuing and renewing the permits, including, but not limited to, staff time and other overhead costs. The City Council may adopt by resolution a schedule of the permit fees required or authorized and update this schedule from time-to-time. All schedules of permit fees will be kept by the City.

ARTICLE XII - ENFORCEMENT

Sec. 7-117. Enforcement.

(a) A person who violates any provision of this Chapter by performing an act prohibited or by failing to perform an act required, or causing the same to be done, is guilty of a Class C

misdemeanor or a civil violation. Each day or portion of a day the violation continues will be a separate offense.

(b) Criminal prosecution.

(1) If this Chapter does not prescribe a culpable mental state for the commission of an offense, then a culpable mental state is not required to be alleged. Such offense will be punishable by a fine not to exceed five hundred dollars ($500.00). Although not required, if a culpable mental state is alleged in the complaint of the offense and the offense relates to fire safety, zoning, or public health or sanitation, the offense will be punishable by a fine not to exceed two thousand dollars ($2000.00).

(2) If this Chapter does prescribe a culpable mental state for the commission of the offense and the offense relates to fire safety, zoning, or public health or sanitation, then a culpable mental state is required and the offense will be punishable by a fine not exceed two thousand dollars ($2000.00).

(c) Civil remedies.

(1) Nothing in this Chapter may be construed as a waiver of the City's right to bring a civil action to enforce the provisions of this Chapter and to seek remedies as allowed by law and equity, including, but not limited to the following:

a. Injunctive relief to prevent specific conduct that violates this Chapter or to require specific conduct that is necessary for compliance with this Chapter; and

b. Any other available relief, including civil penalties.

(d) If any section, subsection, sentence, clause, or phrase of this Chapter is for any reason held to be unconstitutional, such holding will not affect the validity of the remaining portions of this Chapter.