

**ATTENTION BUILDERS AND CONTRACTORS**  
**The City of Killeen recently adopted the new 2021 International  
Construction Codes; the 2020 NEC and 2021 Fire Code**  
**(Ord #22-004, passed on January 24, 2022)**

**These codes are all effective for new permits received on or after  
March 1, 2022**

**DOCUMENT SECTIONS:**

**PART 1 OF 3 – CHAPTER 8 ORDINANCE CHANGES**

**PART 2 OF 3 – SIGNIFICANT CONSTRUCTION CODE CHANGES**

**PART 3 OF 3 – SIGNIFICANT FIRE CODE CHANGES**



**PART 1 OF 3**

**CHAPTER 8 CONSTRUCTION CODE ORDINANCE CHANGES**

- 1) Changed all of the **code years** throughout the Chapter 8 ordinance from “2018” to “2021” for the International Construction codes and from “2017” to “2020” for the National Electrical code as needed to adopt the newer construction codes.
- 2) Amended Sec 8-11(a): to clarify that **non-expired** permits may be extended at no fee when requested before the expiration date and clarifies that **expired** permits may not be extended if construction code or project design changes has occurred.
- 3) Amended Sec 8-11(e)(4): to clarify once collected, the \$10 technology/application fee **cannot** be refunded.
- 4) Amended Sec 8-23 (a): to clarify a permit will be required for structural and **foundation repairs (see also item 12 below)**.
- 5) New Sec 8-32: requiring **“form check”** building placement verification required.  
*“For projects involving the construction of new buildings or additions to existing buildings, a form placement verification document, sealed by a Texas Registered Professional land surveyor, must be submitted for approval*

*at the time the foundation forms are set. The form check verification document shall verify and document that there are no encroachments into the required building setbacks. No foundation related inspections can be performed until the sealed form check verification document has been submitted.*

*This document may either be a sealed field survey or a sealed written narrative document stating the building placement does not intrude over boundary lines, easements or encroach into building setbacks for its location on the property. In lieu of sealed documents for projects twelve or more inches from such setbacks, the builder can accurately place string lines so the building placement can be verified during inspection.”*

- 6) Deleted Sec 8-37(f): Remove **landscaping variance** responsibility from the CBOA since it is now governed by the ZBOA in Ch 31.
- 7) Amended Sec 8-61: Require **contractor email** address at the time of registration.
- 8) Amended Sec 8-62: even though all contractors must be registered with the City to perform work in Killeen, this clarification aligns with state law(s) that **prohibits** local entities from **charging** a fee to register the following trades: Plumbing contractors starting in 2009; Electrical contractors starting in 2017 and Mechanical contractors – starting in 2021.
- 9) Deleted former Sec 8-181, item (2): Removed local unnecessary **Historical** building references since the building code already explains historical regulations which does not diminish local zoning control.
- 10) Added new code references starting in Sec 8-181, (2): the code requires the city to insert our **agency name**. This same requirement repeats the same in; Sec 8-187, (2); Sec 241, (2); Sec 261, (2); Sec 8-281, (2); Sec 8-311, (2); and Sec 8-321, (2).
- 11) Amended Sec(s) 8-181, item (4); and Sec 187, item (4). Clarified **electronic documents** needed for permit applications listed in two locations.

- 12) Amended Sec(s) 8-181, item (4), part 4; to clarify when **engineered sealed** documents are required in several locations, including: Sec 187, item (4), part 4; and Sec 8-191, item (4). (**see also item 4 above**)
- 13) Amended Sec 8-187, item (8): to clarify that for **apartments** “change of tenancy” **certificate of occupancy** is required only for the apartment business use or common areas and/or buildings.
- 14) Deleted Sec 8-191, former item (9); and delete Sec 8-261, former item (2): Removed outdated local older language regarding local gas testing rules and methods, will use the gas code as written for gas pipe testing procedures. [See 2021 IFGC Sec 406.4; IRC Sec G2417.4- must use **manometer...**]
- 15) Deleted Sec 8-220(f)(1) and Sec 8-220(i): Removed outdated electrical code rules since the electrical code already addresses these items. [See revised *Local Electrical Rules Amendments* document on website]
- 16) New Sec 8-301, item (2): Fill in the code the City’s **name**.
- 17) Amended Sec 8-301, item (3): The Killeen Construction Board of Appeals recommended changing ceiling attic insulation in the new 2021 Energy code from R49 back to **R38** as it was before. [Note: the **ResCheck** software report may or may not pass “code” without R49 selected for the attic. The contractor may have to use the prescriptive *Residential Energy Code Worksheet* paper form posted on the website]
- 18) Deleted Sec 8-320, former item (2) and former item (3): Remove local code section text since **permit fees** are located in the *City of Killeen Rate and Fee Schedule* and violation penalties are already located in Sec 1-8 of the Killeen Code of Ordinances.
- 19) Removed previously deleted portions of the property maintenance code Sec 8-321, items (4) through (7): Going forward, staff interprets these sections of this code (**IPMC**) which are: Section 107- *Notices and Orders*, Section 108-*Unsafe Structures and Equipment*, Section 109-*Emergency Measures*, and 110-*Demolition*, are useful and should remain in the property maintenance code and should no longer be purposely deleted.

(Note: these types of violation are also addressed in *CHAPTER 8, ARTICLE V, UNSAFE BUILDINGS OR OTHER STRUCTURES*).

- 20) Amended Sec 8-321, renumbered item (5), (b): to change the minimum “30-day” correction time for **fence maintenance repairs** to “reasonable time.” This will give the code officer the ability to give an appropriate time frame for addressing these types of violations by considering the circumstances specific to the property.
- 21) New Sec 8-321, item (8): Created a new requirement to clean excessive **dirty duct** work when health related nuisances are present.

## PART 2 OF 3

### SIGNIFICANT INTERNATIONAL CONSTRUCTION CODE CHANGES BETWEEN THE 2018 AND 2021 CODES

(Note: this list does not include all code changes, therefore, the codes will prevail this list)

#### **2021 IRC: RESIDENTIAL BUILDING CODE CHANGES FOR 1 & 2 FAMILY DWELLINGS**

- [Building]: R302.5.1 = entry doors from the garage that opens into the house shall also be self-closing and **self-latching**.
- [Building]: R506.2.3 = increase the poly vapor barrier between the ground and slab from 6 mil to **10 mil**.
- [Building]: Table R403.1(1) = new 2 story concrete slab beams minimum size went from 12" wide to 13" wide (most builders exceed these dimensions).
- [Building]: R314.3 = additional **smoke alarms** are required in rooms that open directly from the hallway that is over 24 inches or more in height.
- [Building]: R609.4.1 = **garage doors** must have manufacturer's label
- [Building]: New item – Section 8-23 (a) of the Killeen Code of Ordinances clarifies that a permit is required for structural repairs and **foundation repairs**; and Section 8-181, item (4), part 4 clarifies **engineered sealed documents** are required for structural repairs including **foundation repair** projects.
- [Plumbing]: P2503.5 = **10 ft head water** on DWV plumbing rough-in or top out inspection, with a new -5 lbs vacuum option
- [Plumbing] New: P2905.3 = **100 ft max** distance required from **water heater** to last fixture.
- [Fuel Gas]: G2415.5 = allows threaded plugs and caps to be in **concealed** places.
- [Fuel Gas]: G2427.10.7 = **vent connectors** must be with either a Tee or Wye.
- [Fuel Gas]: G2447.2 = **Cooking appliances** listed for commercial use only cannot be used in dwelling units.

- [Energy]: R402.2.4 **attic access** doors and hatches shall be weather-stripped.
- [Energy]: R402.2.4 pull down **attic stairs** shall be min R-10 or greater with an average U factor 0.10 or lower; or meet the insulation value of the wall or ceiling where it is placed.
- [Energy]: R404.1 = all **(100%) light lamps** shall be high=efficacy type.
- [Energy]: R402.2.2.3 = **continuous eve baffles** required in vented attics.
- [Energy] TABLE R402.1.3 has been locally amended to allow **R38** to be used in the Ceiling R-Value for Climate Zone 2 residential uses in lieu of R49.
- [Energy] TABLE R402.1.3 allows exterior walls to be insulated to R10 Continuous Insulation or R13 batts (**option**).
- [Electrical] The **2020 NEC** is state law since Nov 1, 2020. Licensed Electricians are required to wire per this code. See Electrical notes starting on page 8 below to reference significant code changes that will be inspected for.
- M1401.3 = states HVAC mechanical systems shall be sized per **ACCA Manual S** and shall be based upon the loads in accordance with **ACCA Manual J** and M1601.1 states ductwork shall be designed and sized per **ACCA Manual D** (Reminder).
  - Note 1: The Manual S, J and D reports are required at the time of permit application, including mechanical change outs.
  - Note 2: The Texas Administrative Code requires the AC contractor to perform to the code standards adopted by the municipality.
- M1411.6 = vapor **suction** lines must be insulated to minimum R3
- M1411.8 = **support** refrigerant piping within 6 ft of condensing unit.

### **2021 IBC: COMMERCIAL BUILDING CODE CHANGES:**

- New code Sec 3115.1 for **shipping container** construction.
- New code IBC 3313.1 mandates permanent or temporary **fire protection** is required when combustible building materials arrive on site

### **2021 IPC: PLUMBING CODE CHANGES:**

- IPC 606.1 multi-tenant buildings shall have a **water valve near the curb** and at the **entrance** to the tenant space.
- Sec 403.2 new **unisex rules** options for Separate Facilities.

### **2021 IMC: MECHANICAL CODE CHANGES:**

- IMC 307.1.1 both the primary and secondary drain terminations must be **labeled**
- IMC 307.2.2 = Condensate drainpipes must be min **¾ inch** size
- IMC 502.1 manicure and pedicure stations shall have **continuous** ventilation when occupied
- IMC 1502.3 = clothes dryer vent to be min of 3 ft from building openings, including soffit vents

### **2021 IECC: COMMERCIAL ENERGY CODE CHANGES:**

- Energy C303.1.2 = all insulation and its value shall be **marked**.
- Energy C401.3 = a permanent thermal envelope **certificate** shall be placed near the space conditioning equipment.
- Energy C402.4.1.2 no credit for insulation installed on top of suspended ceilings with removable ceiling tiles.
- New: Energy C402.5 = **continuous air barrier** is required for commercial buildings (the air barrier may be located either on the inside or outside of the wall assembly or combination).
- New: Energy C402.5 = such **air barrier** shall be installed and tested for **all Residential and Institutional** use buildings; plus all **other** buildings less than 5,000 sq ft.
- New: Energy C402.5.1.5 = such building envelope performance shall be verified by design documents, **through inspection** or a final commissioning report.
- New: Energy C402.5.2 = For apartments, dwelling and sleeping unit enclosures must be **door blower tested** for the first 8 units, then 20% of the units thereafter.

**2020 NEC: ELECTRICAL CODE CHANGES (FOR REFERENCE ONLY, THIS CODE HAS BEEN ADOPTED BY THE STATE ON NOV 1, 2020):**

- Sec 210.8 = the measuring distance from receptacles to **sinks** has been modified by removing doors and doorways as approved barriers or exceptions.
- Sec 210.8(A) = all **240-volt** receptacles installed within **6 ft** of wet locations must be GFCI protected (such as the **dryer** located in laundry areas).
- Sec 210.8(A) (11) = **GFCI** required for all indoor damp and wet locations (mud rooms, dog washrooms).
- Sec 210.8(F) all 240-volt outdoor outlets for dwelling shall be **GFCI**.
- Sec 210.52(C) (2) = Island and Peninsular countertops now require more receptacles.
- Sec 230.71 = two to six service disconnects must be in separate enclosures.
- Sec 230.85 **Fireman's disconnect** for 1 & 2 Family dwelling units (at Service or meter) and be labeled as such.
- Sec 250.64(B),(2) = the **grounding electrode conductor** shall be protected in **Sch 80 PVC** or other listed materials. No longer can use Sch 40 PVC.
- Sec 250.121(B) = the metal frames of buildings or structures shall not be used as an **equipment grounding conductor**.
- Sec 314.27 (C) = Electrical boxes for ceiling suspended **paddle fans** shall be **listed** for such.
- Sec 406.9 (C) = receptacles shall not be installed within a **3 x 8 ft zone** from bathtub or shower.
- Sec 406.12 = **tamper resistant receptables** are now required in motels, dormitory units and assisted living facilities.
- Sec 450.9 = **transformer** tops shall be marked to prohibit storage.
- Sec 518.6 = illumination shall be provided for outdoor service equipment for **assembly** occupancies.

**2020 NEC: SOLAR RELATED CODE CHANGES:**

- 690.13(A) = where the PV system disconnect means is above 30 volts that are readily accessible to unqualified persons, the enclosure door or cover that shields live parts when open shall be **locked or require a tool** to open.



- 690.13(E) = the **PV system disconnecting** means shall be one of the following items listed in (1) through (5).
- 690.41(B) = DC circuits over 30 volts or 8 amps shall have **dc GFCI** protection
- 690.53 = DC PV circuits shall have a visible **label** indicating the highest max dc voltage of the system.

**2020 NEC: ELECTRIC VEHICLE CHARGING RULE CHANGES:**

- Sec 625.54 = **GFCI** protection shall be provided for electric vehicle charging
- 625.56 = electric vehicle charging receptables using an outlet box hood shall be listed and shall be identified as **extra duty**. There are exemptions for devices not using an outlet box hood.

**2020 NEC: SWIMMING POOL ELECTRICAL CODE RULES:**

- 680.21(C) = the code added 3-phase outlets supplying swimming pool motors shall be **GFCI** protected
- 680.21(D) = **GFCI** protection shall be provided when replacing pool motors
- 680.22 (A)(5) = at least one **GFCI** receptacle shall be located in a pool equipment room

**2021 ISPSC: SWIMMING POOL CONSTRUCTION CODE CHANGES (FOR REFERENCE ONLY, ALREADY ADOPTED BY THE STATE):**

- ISPSC 305.1.1 = in ground pool construction sites shall have a **4 ft fence** when construction starts
- ISPSC 305.3 = barrier doors and gates must accommodate a **locking device** and **swing outward**.
- ISPSC 305.8 = outdoor public pools **means of egress** shall be per Chapter 10 IBC
- ISPSC 316.6 allows **solar** thermal water heating systems

### **PART 3 OF 3**

#### **BELOW IS A LIST OF SIGNIFICANT FIRE CODE CHANGES:**

#### **2021 IFC: FIRE CODE CHANGES:**

- **Section 1103.7.5.1. Fire Alarm in R-1 Hotel/Motel uses**
  - **Manual fire alarm** systems required in existing R-1 hotel or motel when greater than 1-story or more than 20 sleeping rooms.
    - Exception #1: Fire alarm system is not required if only 1-story with more than 20 sleeping rooms AND each room has direct access to public way AND each sleeping room is separated by 1-hour rated walls.
    - Exception #2: Fire alarm system not required if 3 stories or less with 20 or less sleeping rooms AND is fire sprinklered with NFPA 13 or 13R.
    - Exception #3: Fire alarm system required, but only 1 manual fire alarm box IF fire sprinklered with NFPA 13 or 13R
- **2021 IFC: Section 1103.9. CO Detection in Existing Buildings:**
  - **CO detection** required in existing:
    - Group I-1 (24-hour custodial care)
    - Group I-2 (24-hour medical care)
    - Group I-4 (Custodial care in place other than home of person)
    - Group R (Buildings or areas used for sleeping other than 1 & 2 family homes)
    - Classrooms in Group E (Childcare)
  - Can be battery operated CO alarms if the code in effect at the time of construction did not require CO detection.
  - Can be CO alarms or CO detection.