

CHAPTER 10 BUILDING CODE

ARTICLE I. IN GENERAL

Sec. 10-1. Scope.

This Building Code shall extend to and govern the following:

- (1) The construction, addition, alteration, repair, demolition, conversion, removal, moving, occupancy and maintenance of any building, structure or private utility hereafter erected.
- (2) The alteration, addition, repair, demolition, removal, moving, change of occupancy and maintenance of any existing building, structure or private utility heretofore erected.

(Code 1975, § 44-10; Ord. No. 1530, 2-10-86; Ord. No. 2384, § 3, 11-27-95)

Sec. 10-2. Definitions.

For the purpose of this chapter, words, phrases and terms defined in this section shall be given the defined meanings and shall be applicable for this Chapter 10. Words, phrases and terms defined neither in this section nor in this Building Code shall be given their usual and customary meanings. Words, phrases and terms shown in italics in the body of a paragraph are defined in the building codes. The text of the Building Code shall control captions, titles and maps.

Abandon or abandoned means the desertion of a building, structure or utility and when all utilities are disconnected and/or the building, structure or utility is left to the mercy of vandalism, dilapidation and deterioration and creates a fire hazard, an unsafe condition or a nuisance.

Building Code means the total content of this chapter, together with the contents of the primary and secondary codes adopted by this chapter.

Building Department means one and the same in all respects as the Building Inspection Division as used in this chapter and elsewhere in City communications and documents, and the two phrases shall be used interchangeably.

Building Official means the City's designated Chief Building Official or designee.

Building Permit means the official City document authorizing construction activity under the primary and secondary codes.

Dangerous Building Code when used herein, refers to the latest edition of the Uniform Code for the Abatement of Dangerous Buildings, as published by the

International Code Council, and as adopted in Section 10-159, and amended in Section 10-159.1.

Deterioration, as applied to buildings, structures, equipment and materials, includes corrosion, decay, wear and tear through abuse, obsolescence, effects of the elements, fire damage, lack of maintenance or by any other cause and also includes fatigue due to overstressing, disintegration of the component parts of a building, structure and equipment and the separation of materials and structural parts.

Fire Department means the Thornton Fire Department as used in this chapter.

Health Department means the Tri-County Health Department designated as the City's health department pursuant to Chapter 30, Article II of the Code.

Homeowner shall mean the individual shown as having record title of any building or structure as shown in the official records of the Adams County Clerk and Recorder.

IBC means the latest edition of the International Building Code, as published by the International Code Council, and as adopted in Section 10-151 and amended in Section 10-152.

IEBC means the latest edition of the International Existing Building Code, as published by the International Code Council, and as adopted in Section 10-176 and amended in Section 10-177.

IECC means the latest edition of the International Energy Conservation Code, as published by the International Code Council, and as adopted in Section 10-174 and amended in Section 10-175.

IFC means the latest edition of the International Fire Code, as published by the International Code Council, and as adopted in Section 10-160 and amended in Section 10-161.

IFGC means the latest edition of the International Fuel Gas Code, as published by the International Code Council, and as adopted in Section 10-157 and amended in Section 10-158.

IMC means the latest edition of the International Mechanical Code, as published by the International Code Council, and as adopted in Section 10-155 and amended in Section 10-156.

IPC means the latest edition of the International Plumbing Code, as published by the International Code Council, and as adopted in Section 10-153 and amended in Section 10-154.

IRC means the latest edition of the International Residential Code, as published by the International Code Council, and as adopted in Section 10-164 and amended in Section 10-165.

ISPSC means the latest edition of the International Swimming Pool and Spa Code, as published by the International Code Council, and as adopted in Section 10-179 and amended in Section 10-180.

NEC means the latest edition of the National Electric Code, as published by the National Fire Protection Association, and as adopted in Section 10-162 and amended in Section 10-163.

Premises shall mean the building together with its grounds and other appurtenances and improvements.

Principle Residence shall mean, for an individual, the residence as determined by the address given by the individual and shall be the location where the individual(s) habitation is fixed and to which that individual, whenever absent, has the present intention of returning after departure or absence regardless of the duration of such absence. In determining Principle Residence, the following circumstances shall be considered: voter registration address, motor vehicle registration address (as applicable), and or the address given for state income tax purposes

Structure means an assembly of materials forming a construction for occupancy and includes, but is not limited to, buildings, stadiums, tents, reviewing stands, platforms, stagings, observation towers, radio and television towers, water tanks, swimming and wading pools, retaining walls, open sheds, coal bins, shelters, fences and display signs. This definition shall not include utilities.

Utility, private includes, but is not limited to, streets, drainage, water, sewer, electricity, and/or gas, which is not an approved franchise, or not a City, County, State, or federally owned utility.

Utility, public means one which is authorized to be franchised by an affirmative vote of the people as is necessary to fulfill the obligations as indicated by such authorization or franchise, or any City, County or federally owned utility.

(Code 1975, § 44-4(b); Ord. No. 1530, 2-10-86; Ord. No. 2203, §§ 2, 3, 10-12-92; Ord. No. 2384, § 2, 11-27-95; Ord. No. 2731, § 1, 10-8-02)

Cross references: Definitions generally, § 1-2.

Sec. 10-3. Adoption of Building Code.

Pursuant to the authority conferred by Section 2-55(b) of the code, this Building Code is enacted for the preservation and promotion of the public peace and for the preservation and promotion of the convenience, good order, tranquility, prosperity, happiness, morals, best interests and general welfare of the people and to establish minimum standards of design, materials and workmanship for all buildings and structures erected, altered or repaired and to establish methods of moving or wrecking of buildings within the city limits.

The primary and secondary codes and referenced standards or regulations contained therein, as adopted in Article IV of this Building Code shall be considered part of this Building Code and the provisions of Articles I, II and III of this Building Code shall be applicable to all primary and secondary codes adopted by reference in Article IV. (Code 1975, § 44-1; Ord. No. 1530, 2-10-86)

Sec. 10-4. Interpretation of Building Code; conflicts.

If there are any conflicts between the provisions of any of the sections of this Building Code, the more restrictive of the several provisions or requirements shall govern.

(Code 1975, § 44-3; Ord. No. 1530, 2-10-86)

Sec. 10-5. – Reserved

Secs. 10-6--10-30. Reserved.

ARTICLE II. ADMINISTRATION AND ENFORCEMENT

DIVISION 1. GENERALLY

Sec. 10-31. Building Inspection Division.

Establishment. There is established in the City the Building Inspection Division, as a part of the City Development Department and shall be referred to in Chapter 10 as the Building Department which shall be under the supervision of the Building Official. The Building Official shall have the authority to inspect or cause to be inspected, for compliance to this Building Code, all buildings, structures or private utilities in the City. (Code 1975, § 44-2; Ord. No. 1530, 2-10-86; Ord. No. 2203, § 1, 10-12-92; Ord. No. 2384, § 1, 11-27-95)

Sec.10-32. Liability

The Building Official, member of the Building Code Advisory Board or employee charged with the enforcement of this Building Code, while acting in the course and scope of their duties required by this Building Code or other pertinent law or ordinance, shall not thereby be rendered liable personally and are hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this Building Code shall be defended by a legal representative of the jurisdiction until the final termination of the proceedings.

Sec. 10-33. Right of Entry.

- (a) *Right of Entry.* Where it is necessary to make an inspection to enforce the provisions of the Building Code, or where the Building Official has reasonable cause to believe that there exists in a structure or upon a premises a condition that is contrary to or in violation of the Building Code that makes the structure or premises unsafe, dangerous or hazardous, the Building Official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by the Building Code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the Building Official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the Building Official shall have recourse to the remedies provided by law to secure entry.
- (b) *Investigations and surveys.* Incidental to any of the duties and powers in Subsection (a) of this section, but without the limitation of the duties and powers, the Building Department shall conduct investigations and surveys to determine compliance or noncompliance with the provisions of this Building Code and shall investigate or cause to be investigated all accidents; damage; deterioration or dilapidation; or illegal occupancy pertaining to buildings, structures or private utilities for the purpose of ascertaining whether or not the requirements of this Building Code have been violated.
- (c) *Program of inspection.*
- (1) A program of regular and continuous inspection of existing manufacturing, commercial and residential buildings and structures within this City is found and determined to be necessary to provide and maintain the minimum standards of public health and safety required to be provided for by law.
 - (2) Such a program of inspection is authorized and approved, and the Departments of Fire, Health and the Building Department are authorized and directed to make such inspections of such property as they determine are required to make such a program effective.
 - (3) In the implementation of such a program of inspection, the duly authorized inspection personnel of such departments are authorized and directed to use all means provided by law to effect entry into or upon such property to make such inspections.
 - (4) Materials, equipment and devices approved by the Building Official shall be constructed and installed in accordance with such approval.
 - (5) The use of used materials that meet the requirements of this Building Code for new materials is permitted. Used equipment and devices shall not be reused unless approved by the Building Official.
 - (6) Where there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, upon application of the owner or the owner's authorized agent, provided that the Building Official shall first find that special individual reason makes the strict letter of this code

impractical and, the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the Building Department.

- (7) The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by the Building Code, provided that any such alternative has been approved by the Building Official. An alternative material, design or method of construction shall be approved where the Building Official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in the Building Code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reason why the alternative was not approved. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in the Building Code, shall consist of valid research reports from approved sources.
- (d) *Tests.* Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of the Building Code, or in order to substantiate claims for alternative materials or methods, the Building Official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the Building Official for the period required for retention of public records.

(Code 1975, § 44-12; Ord. No. 1530, 2-10-86; Ord. No. 2384, § 4, 11-27-95)

Sec. 10-34. - Building Code Advisory Board.

- (a) *Designation as appellate body.* Whenever in this Building Code reference is made to an appeal from any written ruling or administrative decision, the building code advisory board shall be the appellate body so designated whether it shall be styled as the board of appeals, housing appeals and advisory board or by any other name. In this section, the building code advisory board shall be referred to as the "board."
- (b) *Organization.* The board shall consist of five members, who are qualified by experience and training to pass upon matters pertaining to building construction, and it shall have representatives from the following fields: engineering,

architecture, building construction or building design. Three members of the board shall constitute a quorum. The building code advisory board shall be appointed by the city council to serve four-year overlapping terms ending on March 1 of even-numbered years; except that three members will initially be appointed for a term of office ending March 1, 2000; thereafter, the term for these members shall be four years. All reappointments or successive appointments shall be for the remainder of the predecessor's term if vacated or for a four-year term if the preceding appointment has expired. The board shall adopt reasonable rules and regulations for conducting its deliberations.

- (c) *Right of appeal.* Any person may appeal any final, written decision of the Building Official or Fire Chief to the Board.
- (d) *Application.* Application for a hearing before the Board shall be made on forms designated for such purpose. These forms shall be made available in the office of the Building Department and shall be available to the public upon request.
- (e) *Fee.* Each application for a hearing before the Board shall be accompanied by a fee in an amount that shall be determined from time to time by resolution of the City Council.
- (f) *Time limit.* Any final written decision of the Building Official or Fire Chief shall be subject to appeal for 30 days. No appeal shall be accepted or heard if it is filed after that date.
- (g) *Scope of authority.* The Board shall have the authority to review any written final decisions of the Building Official or Fire Chief when such decisions are based on the provisions of this Building Code. The Board shall not have the authority to review the denial of a building permit, or decisions based on the Development Code in Chapter 18. The Board may determine the suitability of alternate methods and materials and may review other matters which may properly come before the Board, except that the Board shall not have the authority to recommend decreasing public safety or fire-resistive standards set forth in any section of this Building Code. Where specific materials, types of construction or fire-resistive properties are required, such requirements shall be the minimum requirements, and any materials, types of construction or fire-resistive protection which will afford an equal or greater degree of safety or resistance to fire as specified in this code may be recommended. The Board will also review and hold public hearings regarding the adoption of building codes and make formal recommendations to the City Council for adoption.
- (h) *Meetings.* After the application has been filed and the fee has been paid, the Building Official shall notify the chairperson of the Board, who shall arrange a hearing as promptly as possible but in no case more than 15 days after the completion of the filing of the application, including the payment of fees.
- (i) *Evidence.* The appellant and the Building Department and/or the Thornton Fire Department shall be given the opportunity to present evidence to the Board.
- (j) *Decision.* The decision of the Board shall be final. This shall be binding on the city.

(Code 1975, § 44-14; Ord. No. 1530, 2-10-86; Ord. No. 2203, § 5, 10-12-92; Ord. No. 2227, § 1, 1-25-93; Ord. No. 2281, § 1, 9-13-93; Ord. No. 2384, § 5, 11-27-95; Ord. No. 2490, § 2, 1-12-98; Ord. No. 2731, § 2, 10-8-02)

Cross references: Boards and commissions, § 2-81 et seq.

Sec. 10-35. Prohibitions; violations.

- (a) *Prohibitions.* It shall be unlawful for any person to do or cause to be done or perform or cause to be performed any act contrary to or in violation of any of the provisions of this Building Code or any other code, rule or regulation promulgated under this Building Code which is enforced and administered by the Building Department.
- (1) *Alternate methods, materials and equipment.* It shall be unlawful for any person to use any method, material or equipment as an alternate to the methods, materials or equipment permitted by this Building Code, without first having obtained approval in the manner provided.
 - (2) *Licensing.* It shall be unlawful to erect, construct, enlarge, remodel, alter, repair, move, improve, remove, convert or demolish any building, structure or utility in the City without first obtaining a license in accordance with the provisions of contractors' licenses in Article III, Division 2, of this Building Code.
 - (3) *Building Permits.* It shall be unlawful for any person to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure in the City or cause such to be done contrary to or in violation of any of the provisions of this Building Code and without first having obtained a Building Permit as required by the provisions of this Building Code.
 - (4) *Licensee responsibility.* It shall be unlawful for any licensee to commit any violation of such licensee's responsibilities as enumerated in this Building Code.
 - (5) *Drawings and specifications.* A Building Permit shall not be issued without drawings and specifications being submitted as required by the provision of this Building Code.
 - (6) *Certificate of occupancy.* It shall be unlawful for any person to occupy any building or structure without first obtaining a certificate of occupancy or letter of compliance as required by the provisions of this Building Code.
 - (7) *Unsafe buildings.* It shall be unlawful for any person to maintain or permit to be maintained any building, structure or private utility when such building, structure or private utility is unsafe in accordance with the provisions of this Building Code. These requirements shall apply to buildings, structures or utilities, new, existing, under construction or being demolished.
 - (8) *Covering or Concealing Work.* It shall be unlawful to cover or conceal work requiring inspections without first obtaining approval as required by the provisions of this Building Code.

(9) *Inspection.* It shall be unlawful to fail to have work for which a Building Permit is issued inspected by the Building Department as required by the provisions of this Building Code.

(b) *Violations.*

(1) *Established.* Wherever, by the provisions of this Building Code, the performance of any act is prohibited or wherever any regulation, dimension or limitation is imposed on the erection, alteration, maintenance or occupancy of any building, structure or utility, a failure to comply with the provisions of this Building Code shall constitute a violation. Every day in which a violation exists or every day in which a violation is committed, continues or is permitted shall constitute a separate violation and a separate offense.

(2) *Suspension or revocation of license, certificate or building permit.* The suspension or revocation of any license, certificate, Building Permit or other privilege conferred by the City shall not be regarded as a penalty for the purposes of the Building Code.

(3) *Remedies.* In the event that any building, structure or utility is erected, constructed, reconstructed, altered, repaired, converted, demolished, moved or maintained or any building, structure or utility is used in violation of this Building Code, the City or any proper person may institute any appropriate action or proceedings to prevent such unlawful erection, construction, reconstruction, alteration, repair, conversion, maintenance or occupancy, to restrain, correct or abate such violation or to prevent the occupancy of such building, structure or land. The imposition of any penalty under this subsection shall not preclude the City or any proper person from instituting any appropriate action or proceeding to require compliance with the provisions of this Building Code and with administrative orders and determinations made under this Building Code.

(Code 1975, § 44-15; Ord. No. 1530, 2-10-86; Ord. No. 2203, § 6, 10-12-92; Ord. No. 2384, § 6, 11-27-95)

Secs. 10-36--10-60. Reserved.

DIVISION 2. - BUILDING PERMIT

Sec. 10-61. Required.

(a) *General.* No person or the federal, state, county or city government or any agency, subdivision or department thereof shall erect, construct, enlarge, remodel, alter, repair, move, improve, remove, convert, demolish or change the type of occupancy of any building, structure or utility or perform any other work regulated by this

Building Code or cause such to be performed without first having obtained a Building Permit for the specific work to be performed issued by the Building Department. A Building Permit shall not be required of a public utility, duly franchised or authorized as such in the City, for the repair and maintenance of the equipment and facilities used in the distribution of such utility which has been exempted elsewhere in this Building Code.

- (b) *Transfer of Building Permit.* Building Permits may be transferable upon payment of permit transfer fee provided that there are no changes to the approved plans and specifications and the Building Permit has not been expired for more than 180 days. Fees are due and payable prior to the transfer. A letter from the original Building Permit holder indicating approval and permission for the transfer to take place shall be required. All transfer requests shall be in writing and shall have the prior approval of the Building Official. The amount of the transfer fee is in an amount established by the schedule of fees adopted by resolution.
- (c) *Work exempt from Building Permit.* Exemptions from Building Permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Building Permits shall not be required for the following:
- (1) Buildings/structures:
 - a. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11 m²).
 - b. Fences not over 30 inches (762 mm) high.
 - c. Oil derricks.
 - d. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
 - e. Water tanks supported directly on grade if the capacity does not exceed 5,000 gallons (18 925 L) and the ratio of height to diameter or width does not exceed 2:1.
 - f. Sidewalks not more than 30 inches (762 mm) measured vertically to the floor or grade below at all points within 36 inches horizontally to the edge of the open side, and not over any basement or story below and not part of an accessible route.
 - g. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
 - h. Temporary motion picture, television and theater stage sets and scenery
 - i. Prefabricated swimming pools accessory to a Group R-3 occupancy or one and two family dwelling, that are less than 24 inches (610 mm) deep,

are not greater than 5000 gallons (18925 L) and are installed entirely above ground.

- j. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
- k. Swings and other playground equipment accessory to detached one- and two-family dwellings.
- l. Window awnings in Group R-3 and U occupancies and in one-and-two family dwellings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
- m. Stationary and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.
- n. Freestanding shade structures meeting all of the following requirements: Less than 120 square feet in area, limited to 12' in height, openings in the roof structure spaced greater than 6", limited to 12' in height, openings in the roof structure spaced greater than 6", floor height less than 12 inches above grade, not attached to any structure, and not serving an exit door.
- o. Replacement of asphalt shingle when, over the aggregate roof area, there is less than one square (100 sq. ft.) that will be replaced.
- p. Replacement of doors and windows in single-family dwellings, two-family dwellings, and townhouses where the size of the opening does not change.

(2) Electrical Systems:

- a. Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.
- b. Electrical equipment used for radio and television transmissions. Equipment and wiring for a power supply and the installations of towers and antennas does require a Building Permit.
- c. Installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.
- d. Listed cord-and-plug connected temporary decorative lighting.
- e. Reinstallation of attachment plug receptacles but not the outlets therefor.
- f. Replacement of branch circuit overcurrent devices of the required capacity in the same location.

- g. Electrical wiring, devices, appliances, apparatus or equipment operating at less than 25 volts and not capable of supplying more than 50 watts of energy.

(3) Gas Systems:

- a. Portable heating, cooking or clothes drying appliances.
- b. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
- c. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

(4) Mechanical Systems:

- a. Portable heating appliance.
- b. Portable ventilation appliances
- c. Portable cooling unit.
- d. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this Building Code.
- e. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
- f. Portable evaporative cooler.
- g. Self-contained refrigeration system containing 10 pounds (5 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.
- h. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

(5) Plumbing Systems:

- a. The stopping of leaks in drains, water, soil, waste or vent pipe, provided, however, that if any concealed trap, drain pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work

and a Building Permit shall be obtained and inspection made as provided in this Building Code.

- b. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.
- (d) *Emergency repairs.* Where equipment replacements and repairs must be performed in an emergency situation, the Building Permit application shall be submitted within the next working business day to the Building Official.
- (e) *Repairs.* Application or notice to the Building Official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.
- (f) *Authorized applicants.* Only persons duly licensed under the terms and provisions of this Building Code may apply for a Building Permit and shall be limited to perform only such work as they are entitled to perform under their respective licenses. Any application for a Building Permit filed in derogation of this Building Code shall be deemed to have been filed with fraudulent intent and shall be nullified. Notwithstanding the restrictions in this subsection and in addition thereto, the following persons shall be deemed to be authorized applicants:
 - (1) Any homeowner of a One or Two Family Dwelling, Townhouse, Group R, Division 3, or a Group U, building may make application for a Building Permit to enlarge, remodel, alter, repair, improve, convert or demolish such building. Upon the issuance of a Building Permit under this division, all such work authorized shall be performed personally only by such person and shall be performed in accordance with all the requirements of this Building Code.
 - (2) Any person who owns real property and who wishes to construct or erect only a Group U building or structure in the appropriate zoning district may make application for a Building Permit for such building or structure.
- (g) *Application.* To obtain a Building Permit, the applicant shall first file an application therefor in writing or electronically on a form furnished by the Building Department for that purpose. Such application shall:
 - (1) Identify and describe the work to be covered by the Building Permit for which application is made.

- (2) Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
 - (3) Indicate the use and occupancy for which the proposed work is intended.
 - (4) Be accompanied by construction documents and other information as required in Section 10-63 c.
 - (5) State the valuation of the proposed work.
 - (6) Give such other data and information as required by the Building Official.
- (h) *Signature.* A licensee or the licensee's authorized representative shall be required to sign all applications for Building Permits issued to such licensee. An applicant for a homeowner's Building Permit shall be required to sign all applications for Building Permits issued in such homeowner's name.
- (i) *Action on application.* The Building Official shall examine or cause to be examined applications for Building Permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of this Code and all applicable laws, regulations, or standards, the Building Official shall reject such application in writing, stating the reasons therefor. If the Building Official is satisfied that the proposed work conforms to the requirements of this code and all applicable laws and regulations, or standards, the Building Official shall issue a Building Permit therefor as soon as practicable.
- (j) *Time limitation of application.* An application for a Building Permit for any proposed work shall expire 180 days after the date of filing if no Building Permit has been issued; except that the Building Official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each upon written request received before such application expires. The extension request shall be in writing and shall state justifiable cause necessitating the extension.
- (k) *Validity.*
- (1) The issuance of a Building Permit or the approval of drawings and specifications shall not be construed to be an approval of any violation of the provisions of this Building Code or any other law, rule or regulation. A Building Permit issued shall be invalid if, in the work completed, a violation of this Building Code ensued. When such violation occurs and correction notices are not followed, the Building Permit shall be deemed void, and the building, structure or utility shall be made to conform to the provisions of this Building Code or shall be removed or demolished.
 - (2) The issuance of a Building Permit, based upon drawings and specifications, shall not prevent the Building Department from requiring the correction of violations in such drawings and specifications or from stopping unlawful building operations being carried on thereafter.
- (l) *Expiration and cancellation.* Every Building Permit issued pursuant to this Code shall expire if the work authorized by such Building Permit has not commenced and has not been verified by an inspection within 180 days from the issue date of such Building Permit. A Building Permit shall also expire and be of no further force or

effect if, no further inspection of work authorized by the Building Permit has occurred within 180 days of the prior inspection. Regardless of when any work authorized by a Building Permit has started or without regard to any inspection of work, a Building Permit shall expire one year from the date of issuance. No refund of the Building Permit fee shall be issued for expired Building Permits. Before work may be commenced or resumed for work authorized by an expired Building Permit, a new Building Permit fee shall be paid in an amount as established by the schedule of fees adopted by resolution, provided that no changes have been made in the original drawings and specifications for such work. If the Building Permit holder can demonstrate that the suspension or abandonment was occasioned by circumstances beyond the control of the Building Permit holder, the Building Permit may be issued without charge,

Exception: The work authorized by a wrecking or moving Building Permit shall be commenced within 30 days from the date of the issuance of such Building Permit and shall be continuous until the work authorized by such Building Permit is completed. If such work is suspended or abandoned for a period of ten days after the work has commenced, the Building Permit shall expire. For the purposes of this subsection, the definition of "continuous" shall be the normal rate of progress in the completion of a project with good building or demolition practices.

- (m) *Revocation and suspension.* The Building Department may revoke or suspend any Building Permit or may stop the work authorized by any Building Permit for any of the following reasons:
 - (1) Whenever there is a violation or suspicion of a violation of any provision of this Building Code or any City ordinance which the Building Department is empowered to enforce.
 - (2) Whenever the continuance of any work becomes dangerous to the public health, safety or welfare or to property.
- (n) *Notice.* The notice of revocation or suspension of the Building Permit in every instance shall be in writing and shall be served upon the holder of the Building Permit, the owner or the person performing any work authorized by the Building Permit. After the notice is served, it shall be unlawful to proceed with any work authorized by a Building Permit that has been revoked or suspended. The Building Permit fee for revoked Building Permit shall not be refunded. Reinstatement of a suspended Building Permit shall be by written notice from the Building Department.
- (o) *Denial under certain conditions.* The City Manager may order, in writing, that the Building Official temporarily stop issuing Building Permits to a certain owner or person in the case of willful and repeated violations of this Building Code, the city's Standards and Specifications for Public Improvements or other City regulations.
- (p) *Restrictions and limitations* The issuance or granting of any Building Permit or approval of plans shall not prevent the Building Department from thereafter requiring the correction of errors in said plans and specifications or from preventing construction operations being carried on there under when in violation of this Code

or any other ordinance or from revoking any certificate of approval when issued in error.

- (q) Placement of permit. The building permit or copy and the approved construction documents shall be kept on the site of the work and available to the inspector until completion of the project.

(Code 1975, § 44-26; Ord. No. 1530, 2-10-86; Ord. No. 2203, § 9, 10-12-92; Ord. No. 2384, § 10, 11-27-95)

Sec. 10-62. Valuation of structures for Building Permit purposes; fees.

- (a) *Fee established.* For purposes of this section, a building permit fee shall be established based upon valuation. The determination of value or valuation under any of the provisions of this Building Code shall be based upon the reproduction cost new, without depreciation and without regard to any loss occasioned from fire or other causes. The valuation of buildings or structures and each of the utilities shall be made independently.
- (b) *Determination of value.*
 - (1) The final determination of value or valuation under any of the provisions of this Building Code for all building permits shall be made by the building official. The valuation to be used in computing the building permit fees shall be the total value of all labor, materials and equipment that constitute the work for which the permit is issued, including but not limited to, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-extinguishing systems and any other installation of permanent equipment.
 - (2) The minimum valuation for new commercial, commercial remodel, commercial addition, new residential, and residential addition permits is calculated on the project's gross floor area (square feet) multiplied by the applicable cost per square foot from the "Building Valuation Data" table published by the International Code Council and established by the building official. For the purposes of this section total replacement shall be considered new construction and is defined as more than 50 percent of replacement of the building or structure, based on the estimated current replacement cost to replace the building or structure in kind.
 - (3) The minimum valuation for plumbing, electric and mechanical permits shall be the signed contract amount with the general contractor.
 - (4) The minimum valuation for residential remodel and miscellaneous permits is calculated on the project's estimated material cost, as supplied by the applicant, multiplied by two.

- (c) *Building Permit Fees.* Fees for Building Permits are hereby imposed based upon valuation, as set forth herein, and as set forth in the schedule of fees adopted by resolution of the City Council. Fees for supplementary Building Permits to cover additional valuation not included in the original Building Permit are hereby imposed in an amount as established and set forth in the schedule of fees adopted by resolution of the City Council. All fees established or imposed herein must be paid to the City prior to issuance of the permit
- (d) *Plan review fees.* When submittal of documents are required by Section 10-63, a plan review fee shall be imposed in the amount of 65% of the Building Permit fee, as set forth in the schedule of fees adopted by resolution of the City Council. The plan review fee may be required to be paid at the time plans are submitted, as determined by the Building Official, otherwise the plan review fee will be paid when a Building Permit is issued. If a building permit is not issued the plan review fees are due and payable upon expiration of the plan review and application.
- (1) Plan review fees specified in this section are in addition to the Building Permit fees specified in Section 10-62 (c).
 - (2) When submittal documents are incomplete or change so as to require additional plan review or when the project involves deferred submittal items as defined by this Building Code, an additional plan review fee shall be imposed in an amount as established in the schedule of fees adopted by resolution of the City Council.
- (e) *Fee exemption for governmental work.* The government of the United States, the State and its political subdivisions and the City and all agencies and departments thereto shall be exempt from the payment of fees for work performed on buildings, structures or utilities owned wholly by such agencies or departments and devoted exclusively to governmental use.
- (f) *Additional fees.* The fee for a supplementary Building Permit to cover any additional valuation not included in the original Building Permit shall be the difference between the fee originally paid and the fee which would have been required had the original Building Permit included the entire valuation.
- (g) *Investigation Fees: Work without a Building Permit.*
- (1) Whenever it is discovered that any work for which a Building Permit is required by this Building Code has been commenced without first having obtained a Building Permit, a special investigation is hereby imposed before a Building Permit may be issued for such work.
 - (2) The investigative fee, is in addition to the Building Permit fee, and shall be imposed whether or not a Building Permit is issued. The investigation fee shall be paid upon completion of the investigation. The investigation fee shall be equal to the amount of the Building Permit fee as determined and set forth in the schedule of fees adopted by resolution.

- (3) The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this Building Code nor from any penalty prescribed by law. Investigation fees shall be due and payable regardless of whether a Building Permit is issued or not.
- (h) *Rebates.* A person who converts from a solid fuel-fired heating device to natural gas logs or a natural gas fireplace or to a Department of Health certified solid fuel-burning device that meets the current emissions standards under Regulation 4 of the State Air Quality Control Commission, or certified pellet stove or insert will be eligible for a Building Permit and/or inspection permit fee rebate. Such rebate may be obtained by submitting documentation evidencing the purchase of the conversion materials and a copy of a letter of compliance issued by the City Building Department verifying installation to the City Revenue Division.
- (i) *Refunds.* The Building Official has the discretion to refund Building Permit fees and plan review fees paid under the following conditions.
- (1) A written request for a refund must be submitted within 180 days of the date the fee was paid.
 - (2) The written request must set forth the basis for the request for a refund, identify the project for which a refund is requested and the request must be from the same person or entity which paid the fee.
 - (3) If the foregoing provisions have been met, the Building Official may refund Building Permit fees or plan review fees based upon the following criteria:
 - a. If fees were paid or collected in error, the applicable fees paid will be refunded.
 - b. If the project for which a Building Permit fee has been paid is not to be constructed and no construction has commenced, or the request for plan review for such project is being withdrawn before review of the plans has occurred, the applicable fees paid, minus a 20% processing and file preparation charge, shall be refunded.
 - c. If the plans for the project have been reviewed, to any extent, at the time a request for refund is submitted, the refund request will be denied.
 - d. If any construction has been commenced pursuant to a Building Permit, the refund request will be denied.

(Code 1975, § 44-27; Ord. No. 1530, 2-10-86; Ord. No. 2195, § 2, 9-28-92; Ord. No. 2203, § 10, 10-12-92; Ord. No. 2375, § 3, 6-26-95; Ord. No. 2384, § 11, 11-27-95; Ord. No. 2849, § 1, 10-26-04, eff. 1-1-05)

Sec. 10-63. Drawings and specifications.

- (a) *Required.* Drawings and specifications shall be required prior to the issuance of a Building Permit under this division. Such drawings and specifications shall be checked and approved by the Building Department prior to the issuance of a Building Permit for the work to be performed. All drawings shall have the stamp of approval on each page thereof.
- (b) *Responsibility for design.*
- (1) A Building Permit shall not be issued unless the plans and specifications for such proposed construction, reconstruction, alteration, or remodeling conform to all applicable provisions and the regulations and restrictions of this Building Code. Plans and specifications shall be prepared and shall bear the seal and signature of a design professional practicing within their area of expertise and licensed by the State of Colorado.
 - (2) Exception. Plans need not be prepared by a licensed design professional for the following:
 - a. One-, two-, three-, and four-family dwellings, including accessory buildings commonly associated with such dwellings.
 - b. Garages, industrial buildings, offices, farm buildings and buildings for the marketing, storage, or processing of farm products, and warehouses that do not exceed one story in height, exclusive of a one-story basement, and that are not designed for occupancy by more than ten persons.
 - c. Additions, alterations, or repairs to the buildings listed in Subsections 10-63(b)(1)(a) and (b) which do not cause the completed buildings to exceed the applicable limitations set forth in this subsection.
 - d. Nonstructural alterations of any nature to any building if such alterations do not affect the life safety of the occupants of the building.
 - (3) The Building Official may require plans, computations and specifications to be prepared, sealed and signed by a licensed design professional practicing within their area of expertise and whenever, in the opinion of the Building Official, the project is of such complexity as to require the preparation of such by a licensed design professional. Building Permits for remodeling buildings or structures shall not be issued without requiring complete plans.
 - (4) When it is required that documents be prepared by a licensed design professional, the building official shall be authorized to require the owner to engage and designate on the Building Permit application a registered

design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties. The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

- (c) *Information and preparation.* Drawings, when required, shall be made to scale upon substantial paper, plastic or cloth, and the drawings and specifications shall be complete and of sufficient clarity to indicate the entire nature and extent of the work proposed and to indicate in detail that the building, structure and utilities will conform to the provisions of this Building Code and all relevant laws, rules and regulations. Plans may be submitted electronically upon approval of the Building Official.
- (1) Mechanical drawings, specifications and analyses shall contain the following:
- a. The name, signature and address of the person responsible for the preparation of such drawings and specifications, the seal of the design professional responsible for the preparation of such drawings and specifications on each drawing and the signature of the design professional affixed to each page thereof.
 - b. At least single-line drawings, including typical isometric, of plumbing, heating and air-treatment systems.
 - c. A Btu rating of gas units, including the method of combustion, air supply, the type of refrigeration and horsepower and the gas meter locations.
 - d. Heating, ventilation, cooling and fire protection details and calculations.
- (2) Electrical drawings, specifications and analyses shall contain the following:
- a. The name, signature and address of the person responsible for the preparation of such drawings and specifications and the seal of the design professional responsible for the preparation of such drawings and specifications stamped on each drawing and the signature affixed thereto.
 - b. A complete electrical layout with a service diagram showing load breakdown and sizes of service and feeder panels.
 - c. Calculations indicating the determination of sizes of all electrical wiring and equipment.
 - d. The complete elevator layout.

- (3) Additional information that may be required by the Building Department shall include the following:
- a. Reports of an independent testing agency which substantiate the requirements of this Building Code regarding structural or fire-resistant characteristics of the building or portion thereof.
 - b. Calculation indicating the determination of sizes of elements of the structure.
 - c. Any other information that may be deemed necessary in the determination of compliance with the requirements of this Building Code.
 - d. A survey establishing the location of boundaries and the drainage of the property upon which the operations are to be executed shall be furnished.
 - e. The construction documents shall show in sufficient detail the location, construction, size and character of all portions of the means of egress in compliance with the provisions of this code. In other than one- and two-family dwellings and townhomes the construction documents shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces.
 - f. Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistant membrane and details around openings.
 - g. The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the weather resistance of the exterior wall envelope and shall fully describe the exterior wall system which was tested, where applicable, as well as the test procedure used.
 - h. The construction documents submitted with the application for Building Permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing

structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for Building Permit is for alteration or repair or when otherwise warranted.

- i. Where design flood elevations are not specified, they shall be established in accordance with IBC Section 1612.3.1.
 - j. Demolition permits require the submittal of a State of Colorado permit for the demolition project.
- (4) For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the Building Official within a specified period. Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the Building Official. Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the Building Official.
- (5) Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.
- (d) *Disposal of drawings.* After final inspection has been made, upon the completion of the work approved in a set of drawings and specifications, the Building Department copy of such drawings and specifications shall be disposed of in the following manner:
- (1) All drawings and specifications pertaining to City-owned buildings, structures or utilities shall be kept in a permanent file.
 - (2) Other drawings and specifications may be disposed of at any time after two years have elapsed from the date of the issuance of the Building Permit.
 - (3) Drawings and specifications submitted for checking only may be disposed of after 90 days.
- (e) *Expiration of plan review.* Applications for plan review shall expire if no Building Permit is issued within 180 days following the date the application was accepted. Any plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the Building Official.

- (1) The Building Official may extend the time to obtain a Building Permit for a period not exceeding 180 days on written request of the applicant prior to the expiration date showing that circumstances beyond the control of the applicant have prevented the issuance of the permit.
- (2) In order to resubmit an application after expiration, the applicant shall pay a new plan review fee and the fee therefore shall be one half of the amount required for a new plan review, provided no changes have been made or will be made in the original plans and specifications for such work and that the plans are still in compliance with this Building Code, if a later edition has been adopted by the City Council, provided further that the expiration has not exceeded 180 days.
- (3) In order to resubmit an application after expiration, the applicant shall resubmit plans and pay a new plan review fee as set forth in the schedule of fees established from time to time by resolution of the City Council.

(Code 1975, § 44-28; Ord. No. 1530, 2-10-86; Ord. No. 2033, § 1(d), 12-17-90; Ord. No. 2203, § 11, 10-12-92; Ord. No. 2384, § 12, 11-27-95)

Sec. 10-64. Inspections.

(a) *Generally.*

- (1) Upon issuance of a building permit for construction or work for which a building permit is required, such construction or work shall be subject to inspection and shall remain accessible and exposed for such inspection until the construction or work is approved.
- (2) Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the city. It shall be the responsibility of the building permit holder to notify the building official when construction or work is ready for inspection. Neither the building official nor the city shall be liable for expense entailed in the removal or replacement of any material that is required to allow inspection.
- (3) The building official is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.
- (4) The building official may require retest of any installation or assembly on which a report has been filed and, in the case of substantial discrepancy in the results of the test, may suspend any agency's privilege to file the report in lieu of actual inspection.
- (5) Required inspections shall include but not be limited to the following:
 - a. Plumbing inspection.

1. Rough-in. This is the first inspection, which shall consist of the water or air test on all potable water lines, waste and vent piping and is performed prior to covering.
2. Final. The final inspection shall be made when all fixtures are set and work is completed and operating.

b. Electrical inspection.

1. Rough-in. This is the first inspection, which shall consist of all conduit, semi rigid piping or wiring being in place prior to covering.
2. Final. The final inspection shall be made when the work is completed and operating.

c. Mechanical inspection.

1. Rough-in. The first inspection shall be made when all duct and pipe work is in place before it is covered.
2. Final. Final inspection shall be made when the system is completed and operating.

d. Footing, caisson inspection. Footing or caisson inspection shall be made after trenches or caissons are excavated and the forms are erected but before the concrete is deposited. If engineered footings are to be used, a copy of the engineer's report must be submitted to the building inspector at this time.

e. Form survey. Setbacks shall be verified by a survey signed and sealed by a registered surveyor performed after the foundation forms are set and submitted prior to the placement of concrete in the forms.

Exception: Additions, detached Group U occupancies, remodels and renovations

f. Framing inspection. The framing inspection shall be made after wall and roof framing are completed, bracing and fire stops are in place and all pipes, wires and vents are complete.

g. Final inspection. The final inspection shall be made at the time the contractor feels the building or structure fulfills all requirements for a certificate of occupancy.

- (b) Inspection requests. Any person or entity issued a Building Permit or their duly authorized agent shall notify the building official when work is ready for inspection. It shall be the responsibility of any person or entity issued a Building

Permit to call for an inspection before the Building Permit expires. It shall be the responsibility of the Building Permit holder to provide access to and means for inspections of such work that are required by this code.

- (c) ~~*Inspection record card.* All construction work, including new work, additions, alteration and repairs for all occupancies, shall not be commenced until the Building Permit holder or the Building Permit holder's agent shall have posted an inspection record card in a conspicuous place so as to conveniently allow the Building Department to make the required entries thereon regarding the inspection of the work.~~
- (d) *Reinspections.* A reinspection fee may be imposed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made. This section is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this Building Code. Reinspection fees may be imposed when the inspection record card is not posted or otherwise available on the worksite, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested or for deviating from plans requiring the approval of the Building Official. Where reinspection fees have been imposed no inspection will take place until the required reinspection fees have been paid. Reinspection fees shall be in amounts as established in the schedule of fees established from time to time by resolution of the City Council.
- (e) *Approval required.*
- (1) Work shall not be performed on any portion of a building, structure or utility beyond the point indicated in each successive inspection without first obtaining the approval of the Building Department. Such approval shall be given only after an inspection shall have been made of each successive step in the construction as indicated by each of the inspections in this section.
 - (2) Foundation work, reinforcing steel or the structural framework of any part of any building, structure or utility shall not be covered or concealed in any manner whatever without first obtaining the approval of the Building Official.
- (f) *Stop Work Orders* Whenever the Building Official finds any work regulated by this code being performed in a manner either contrary to the provisions of this Building Code or dangerous or unsafe, the Building Official is authorized to issue a stop work order.
- (1) *Issuance.* The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work or conspicuously posted on the site. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work

order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

- (2) *Unlawful continuance.* It is unlawful for any person to continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition by the Building Official.
- (3) *Unlawful removal.* It is unlawful for any person to remove or deface any stop work order posted on property pursuant to this subsection (f) unless resumption of work is authorized by the Building Official.

(g) *Connection of service utilities.*

- (1) No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a Building Permit is required, until released by the Building Official.
- (2) The Building Official shall have the authority to authorize the temporary connection of the building or system to the utility source of energy, fuel or power.
- (3) The Building Official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section 10-3 in case of emergency where necessary to eliminate an immediate hazard to life or property or when such utility connection has been made without the approval required by this Building Code. The Building Official shall notify the serving utility, and wherever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

(h) *Certificate of occupancy.*

- (1) No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made, until the Building Official has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this Building Code, regulations or standards or of any other ordinances of the City of Thornton. A certificate of occupancy shall be issued for completion of a project in accordance with the International Building Code, as adopted in Section 10-151, or the International Residential Code, as adopted in Section 10-166, or the International Existing Building Code, as adopted in Section 10-177, otherwise a letter of compliance shall be issued upon the completion of a job following the final inspection if it is found that all licenses and Building Permits are in order, the building complies with the provisions of this Building Code and other

applicable municipal regulations and the use of the structure is a permitted use.

Exception: Certificates of occupancy are not required for work exempt from Building Permits under Section 10-61 (b).

- (2) After the Building Official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department of building safety, the Building Official shall issue a certificate of occupancy that contains the following:
 1. The Building Permit number.
 2. The address of the structure.
 3. The name and address of the owner.
 4. A description of that portion of the structure for which the certificate is issued.
 5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
 6. The name of the Building Official.
 7. The edition of the code under which the Building Permit was issued.
 8. The use and occupancy of the building or structure
 9. The type of construction the building or structure is built to
 10. Any special stipulations and conditions of the Building Permit.
 - (3) The Certificate of Occupancy shall be posted in a conspicuous place on the premises and shall not be removed except by the building official.
Exception: Dwelling units and Group U occupancies shall not be required to post the Certificate of Occupancy.
 - (4) The Building Official is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the Building Permit, provided that such portion or portions can be occupied safely as determined by the Building Official and all applicable fees have been paid. The Building Official shall set a time period during which the temporary certificate of occupancy is valid.
 - (5) The Building Official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this Building Code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this Building Code.
- (i) Change of occupancy: A change of occupancy is defined as a change in the ownership of a building, change in the ownership of a business, a change in the business name, or a change in the use of a building. A change of use is not limited to a change of classification. Every change of occupancy requires the

issuance of a new certificate of occupancy following a safety inspection and approval by the building official.

- (j) *Letter of compliance.* Any work completed in compliance with a building permit for which a certificate of occupancy is not issued pursuant to this Building Code shall be issued a letter of compliance; if following the final inspection it is found that all licenses are issued, the building complies with the provisions of this Building Code and other applicable municipal regulations, and the use of the structure is a permitted use.

(Code 1975, § 44-29; Ord. No. 1530, 2-10-86; Ord. No. 2203, § 12, 10-12-92; Ord. No. 2384, § 13, 11-27-95; Ord. No. 2731, § 3, 10-8-02)
Secs. 10-65--10-90. Reserved.

Secs 10-65—10-90. – Reserved.

ARTICLE III. CONTRACTORS*

***Cross references:** Licenses, permits and businesses, Ch. 42.

State law references: General authority to license, C.R.S. § 31-15-501; State regulation of electricians, C.R.S. § 12-23-100.2; State regulation of plumbers, C.R.S. § 12-58-101 et seq.; local regulation of plumbers prohibited, C.R.S. § 12-58-115.

DIVISION 1. GENERALLY

Secs. 10-91--10-115. Reserved.

DIVISION 2. LICENSE

Sec. 10-116. Required.

- (a) *Duties of Building Department.* The Building Department, will determine the appropriate qualifications for persons or entities applying for a contractor's license as prescribed herein.
- (b) *Contractor.* Any person who undertakes to perform any of the types of work or activity controlled by this section for any compensation whatsoever shall be considered a contractor, including persons who purchase properties with the intent to remodel and sell the property. Exception: A person performing for wages under and for another person appropriately licensed shall not be considered a contractor. A homeowner performing work on such homeowner's principle residence shall not be considered a contractor. A homeowner may be issued a Building Permit to construct a maximum of one residence for such homeowner's principle residence within a 24 month period. The start date of the 24 month period shall be the issue date of the certificate of occupancy. The construction thereof becomes such homeowner's liability and responsibility for meeting all of the conditions of this Building Code. Public utility companies will not be required to obtain licenses for the firm or corporation or for their employees when engaged in the installation, operation and maintenance of equipment which will

be used for the production, generation or distribution of the public utility, product or service through the facilities owned or operated by such public utility company to the point of the customer service.

- (c) *Examining procedures.* The Building Official shall establish such reasonable examining procedures for the issuance of contractor's licenses as shall, from time to time, become necessary. These examining procedures shall be implemented so as to ensure the City that the applicant does indeed have the knowledge and capability to perform work in accordance with the regulations of the Building Code, and the City shall not deny a license to any person capable and willing to perform in such fashion.

(Code 1975, § 44-16; Ord. No. 1530, 2-10-86; Ord. No. 2203, § 7, 10-12-92; Ord. No. 2227, § 2, 1-25-93; Ord. No. 2384, § 7, 11-27-95)

Sec. 10-117. Application and examination; regulation of contractors.

- (a) *Definition of license.* A contractor's license is authority granted to the person to whom it is issued to perform certain work, and it is not transferable.
- (b) *License required.* Any contractor, except electrical contractors licensed by the State while engaged in electrical work, performing in a business involving the construction, alteration, remodeling, repairing or equipping of buildings or other structures or performing in the installation of underground utilities or construction of roads and streets in the City and on all City-owned water, sewer and storm drainage facilities, shall be licensed as a contractor as required by this section.
- (c) *Application form and procedure.* An application for a contractor's license shall be on such forms as the Building Official may require. A final review and appropriate action shall be taken on such license application, as soon as practical and the applicant shall be notified accordingly.
- (d) *License without examination.* The Building Official may issue a contractor's license, without examination, upon the payment of the required fees, applicants who are duly licensed as a contractor under the laws of the State and/or cities and/or counties having requirements for the licensing and regulating of the plumbing trade, mechanical trade, building trade, etc., deemed by the Building Official to be equivalent to the requirements of this Building Code and this State.
- (e) *Manufactured home installer's license.*
 - (1) Every person engaged in the installation of a manufactured home or other relocatable housing unit shall hold a valid Class D Manufactured Home Installer's license issued by the City. The issuance of such a license shall conform with the requirements of this Building Code.
 - (2) Any person required to obtain a contractor's license under the provisions of this subsection shall apply to the Building Official on an application form provided for that purpose by the Building Official. The applicant shall pay an annual license fee, adopted by the City Council by resolution. The

license shall be a class D Manufactured Home Installer license as specified in Section 10-118. Applicants for this Class D Manufactured Home Installer license shall be licensed with the State of Colorado Division of Housing as a certified manufactured home installer.

- (3) A license holder under this subsection is limited to the performance of the following services:
 - a. Connection to existing electrical outlet and gas meter.
 - b. Connection to water and sewer utility outlets, provided that the outlets are located on the site of the mobile home.
 - c. Moving of the mobile home onto a mobile home space and installation of blocking, piers, and tie down systems.

- (4) The owner of a manufactured home, provided that the owner is also the occupant of the mobile home, may install and locate the mobile home, including attachment to the required utilities, and the owner shall not be required to obtain a license provided for in this section; provided, however, that the owner shall acquire all other necessary Building Permits. Homeowners shall be allowed to install a maximum of one manufactured home in a twelve (12) month period. The start date for the twelve (12) month period shall be the date of the manufactured home Letter of Completion/Compliance

- (5) All installations and connections of mobile homes shall be in accordance with the applicable provisions of this chapter and other applicable codes and ordinances of the City.

(Code 1975, § 44-17; Ord. No. 1530, 2-10-86; Ord. No. 2033, § 1(a), (b), 12-17-90; Ord. No. 2227, § 3, 1-25-93; Ord. No. 2384, § 8, 11-27-95)

Sec. 10-118. Classification.

The classification of contractor's licenses is as follows:
TABLE INSET:

Class	Requirements	Allowed to Perform
A General Contractor	Valid license with reciprocating jurisdiction or ICC General Building Contractor Certification for currently adopted code	Unlimited
B Building Contractor	Valid license with reciprocating jurisdiction or ICC Standard Building Contractor Certification for currently adopted code	Unlimited, except for Type I Construction, and limited to three stories in height
C Residential Contractor	Valid license with reciprocating jurisdiction or ICC Residential	Residential

	Building Contractor Certification for currently adopted code	
D	No Requirements	Specialty contractor
D Manufactured Home Installer	Valid State of Colorado Certified Installer	Manufactured Home Installation
D Plumbing	Must hold a valid State of Colorado Plumbing Contractor and Master Plumber License	Plumbing and Gas Piping Installation
D Electrical Registration	Must hold a valid State of Colorado Electrical Contractor and Master Electrician License	Electrical Installation
D Commercial Mechanical	Valid license with a reciprocating jurisdiction or ICC Master Mechanical A Certification for currently adopted code	Unlimited Mechanical Installation including water heaters
D Residential Mechanical	Valid license with a reciprocating jurisdiction or ICC Residential Mechanical C Certification for currently adopted code	Residential Mechanical Installations including water heaters
D Roofing	Valid license with a reciprocating jurisdiction or ICC Roofing Contractor Certification for currently adopted code	Roofing and reroofing of structures

(Code 1975, § 44-18; Ord. No. 1530, 2-10-86; Ord. No. 2590, § 1, 12-13-99; Ord. No. 2731, § 4, 10-8-02)

Sec. 10-119. License and registration fees.

The license and registration fees for all classifications of contractors' licenses shall be in an amount as adopted from time to time by resolution.

(Code 1975, § 44-19; Ord. No. 1530, 2-10-86; Ord. No. 2033, § 1(c), 12-17-90; Ord. No. 2203, § 8, 10-12-92; Ord. No. 2227, § 4, 1-25-93)

Sec. 10-120. Expiration and renewal.

- (a) All contractors' licenses required under this division shall expire one year from the date of issue.
- (b) The fee for the renewal of a license shall be the same as the fee for issuing such license as set forth in Section 10-119.
- (c) A contractor's license that is not renewed within 1 year of the expiration date shall expire permanently and the applicant will be required to apply for a new license in accordance with the provisions of this Building Code.

(Code 1975, § 44-21; Ord. No. 1530, 2-10-86)

Sec. 10-121. Responsibilities of licensees.

All persons issued a contractor's license under this division shall be responsible for work requiring a Building Permit under the provisions of this Building Code, without limitation to the items as listed in this section. See Section 10-36 for unlawful acts. It shall be the responsibility of the licensee to:

- (1) Provide minimum safety measures and equipment to protect workers and the public in general as prescribed by this Building Code.
- (2) Observe any other City, County or State ordinance or statute prescribing measures for the safety of workers and of the public.
- (3) Present license cards when requested by the Building Official.
- (4) Obtain a Building Permit when the Building Permit is required.
- (5) Construct faithfully, without substantial departure from or disregard of, drawings and specifications when such drawings and specifications have been filed and approved by the Building Department and a Building Permit has been issued for such, unless such changes are approved by the Building Department.
- (6) Complete all work authorized on the Building Permit issued under the authority of this Building Code, unless good cause is proved.
- (7) Obtain inspection services when the inspection services are required by this Building Code.
- (8) Pay any fee assessed under the authority of this Building Code.
- (9) Obey any order issued under the authority of this Building Code.
- (10) Provide honest and factual information on all applications for Building Permits.

(Code 1975, § 44-22; Ord. No. 1530, 2-10-86)

Sec. 10-122. Changes in status.

- (a) A change in name, business designation or personnel of a business issued a contractor's license shall void the license unless such changes are recorded with the Building Department within ten days after making such change.
- (b) Incorporation or a change in incorporation creating a new legal entity that requires a contractor's license, even though one or more stockholders or directors have a license, shall void the license.

- (c) The organization of a partnership or the change in a partnership creating a new legal entity that requires a contractor's license, even though one or more of the partners are licensed, shall void the license.
 - (d) The dissolution of a corporation or partnership which has been licensed terminates the contractor's license, and no individual or firm may operate under such license.
 - (e) In the case where it is desired to change the name of a presently licensed firm, partnership or corporation where there is no change in ownership, a new contractor's license shall be issued under the new name, without charge, upon the surrender of the contractor's license originally issued.
- (Code 1975, § 44-23; Ord. No. 1530, 2-10-86)

Sec. 10-123. Suspension or revocation.

- (a) *Authority.* The Building Official may suspend or revoke a contractor's license required under this division when a licensed contractor commits one or more of the following acts or omissions:
 - (1) Failure to comply with any of the licensee's responsibilities.
 - (2) Knowingly combining or conspiring with a person by permitting one's contractor's license to be used by such person.
 - (3) By acting as agent, partner, associate or in any other capacity with persons to evade the provisions of this Building Code.
 - (4) Violating any provisions of this Building Code or any other City ordinance.
- (b) *Procedure.* When any of the acts or omissions as enumerated in Subsection (a) of this section are committed by a licensed contractor and the Building Official deems that such contractor's license shall be suspended or revoked, the procedure shall be as follows:
 - (1) The contractor shall be notified, in writing, by certified mail or by personal service, at least seven days prior to the effective date of the suspension or revocation.
 - (2) Upon the receipt of the notice, the contractor may request a hearing. Such request shall be in writing to the Building Official within seven days of the receipt of the notice.
 - (3) If a hearing is requested by the contractor, the Building Official shall set a time, date and place for the hearing and shall so notify the contractor.
 - (4) When a hearing is conducted, the contractor and other interested parties may be in attendance.
- (c) *Hearing.* The hearing shall be conducted by the Building Code Advisory Board.

(Code 1975, § 44-24; Ord. No. 1530, 2-10-86; Ord. No. 2384, § 9, 11-27-95; Ord. No. 2590, § 2, 12-13-99)

Sec. 10-124. Transitional provisions.

Except as otherwise expressly provided herein, the Building Code shall not be construed to require the duplication or reissuance of any license within the same calendar year, the duplication of any examination or the duplication of any payment of any license fee for a particular grade of license within the same calendar year. All persons in the building and construction industries licensed as of the effective date of the ordinance from which this section derives under former codes and ordinances shall be deemed to be appropriately licensed under this division. Licenses shall expire under the provisions of Section 10-120.(Code 1975, § 44-25; Ord. No. 1530, 2-10-86) Secs. 10-125--10-150. Reserved.

Article IV. Technical Standards

Sec. 10-151. International Building Code adopted by reference.

The International Building Code, 2018 edition, is published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001. The purpose and subject matter of the International Building Code includes regulating construction aspects of building and providing greater safety to the public and uniformity in building laws. The International Building Code, 2018 edition, is hereby adopted by this reference and incorporated into this Code as the Building Construction Code of the City. Except as otherwise provided in Section 10-152, the International Building Code, 2018 edition, is adopted in full including the outline of contents and the index, but excluding all appendix chapters, except Appendix I.

1. Section 10-152 of the Code is hereby amended to read as follows:

Sec. 10-152. Amendments to International Building Code.

The International Building Code adopted in Section 10-151 is hereby amended as follows; section numbers refer to section numbers of the International Building Code:

Subsection 101.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

101.1 Title. These regulations shall be known as the *Building Code* of ~~[NAME OF JURISDICTION]~~ the City of Thornton, hereinafter referred to as “this code.”

Subsection 101.4.4 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

101.4.4 Property maintenance. The provisions of the International Existing Building Code and the Uniform Code for the Abatement of Dangerous Buildings Code ~~International Property Maintenance Code~~ shall apply to existing structures and premises; equipment and facilities; light, ventilation, space heating, sanitation, life and fire safety hazards; responsibilities of owners, operators and occupants; and occupancy of existing premises and structures.

Subsection 102.6 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

102.6 Existing structures. ~~102.6 Existing structures.~~ The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the Uniform Code for the Abatement of Dangerous Buildings Code, the International Existing Building Code, ~~the International Property Maintenance Code~~, or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

Chapter 1 Part 2-Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Section 202 Definitions is hereby amended by the addition of the words double-underlined to read as follows:

SLEEPING ROOM. A habitable space that meets the minimum area requirements of the building code, and, contains a closet or an area that is readily convertible to a closet. An adjacent area fitted with permanently affixed floor to ceiling shelving and no clothes rod may be defined as a storage room in a non-sleeping room.

Table 508.4 is hereby amended by the addition of a footnote double-underlined to read as follows:

**TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)^f**

OCCUPANCY	A, E		I-1 ^a , I-3, I-4		I-2		R ^a		F-2, S-2 ^b , U		B ^a , F-1, M, S-1		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A, E	N	N	1	2	2	NP	1	2	N	1	1	2	NP	NP	3	4	2	3	2	NP
I-1 ^a , I-3, I-4	-	-	N	N	2	NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP	2	NP
I-2	-	-	-	-	N	N	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP	2	NP
R ^a	-	-	-	-	-	-	N	N	1 ^c	2 ^c	1	2	NP	NP	3	NP	2	NP	2	NP
F-2, S-2 ^b , U	-	-	-	-	-	-	-	-	N	N	1	2	NP	NP	3	4	2	3	2	NP
B, F-1, M, S-1	-	-	-	-	-	-	-	-	-	-	N ^d	N ^d	NP	NP	2	3	1	2	1	NP
H-1	-	-	-	-	-	-	-	-	-	-	-	-	N	NP	NP	NP	NP	NP	NP	NP
H-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	NP	1	NP	1	NP
H-3, H-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 ^d	NP	1	NP
H-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	NP

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

N = No separation requirement.

NP = Not permitted.

a. See Section 420.

b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.

c. See Section 406.3.2.

d. Separation is not required between occupancies of the same classification.

e. See Section 422.2 for ambulatory care facilities.

f. Occupancy separations that serve to define fire area limit established in Chapter 9 for requiring fire protection systems shall also comply with Section 707.3.10 and Table 707.3.10 in accordance with Section 901.7.

g. All tenants or tenant spaces within a multitenant commercial building shall have a minimum two-hour fire-resistance rated fire barrier between occupancies, or a one-hour fire-resistance rated fire barrier when the building is equipped with a fire sprinkler system throughout installed in accordance with Section 903.3.1.1; unless the provisions of Section 508.3 for non-separated occupancies are applied and the most restrictive occupancy group allowed is assumed.

Subsection 915.1.4 is hereby amended by the deletion of the words stricken to read as follows:
This section was not included in the draft

915.1.4 Fuel-burning appliances outside of dwelling units, sleeping units and classrooms. Carbon monoxide detection shall be provided in dwelling units and in sleeping units and classrooms located in buildings that contain fuel-burning appliances or fuel-burning fireplaces.

Exceptions:

1. Carbon monoxide detection shall not be required in ~~dwelling units~~, sleeping units and classrooms where there are no communicating openings between the fuel-burning appliance or fuel-burning fireplace and the dwelling unit, sleeping unit or classroom.
2. Carbon monoxide detection shall not be required in ~~dwelling units~~, sleeping units and classrooms where carbon monoxide detection is provided in one of the following locations:
 - 2.1. In an approved location between the fuel-burning appliance or fuel-burning fireplace and the ~~dwelling unit~~, sleeping unit or classroom.
 - 2.2. On the ceiling of the room containing the fuel-burning appliance or fuel burning fireplace.

Subsection 915.1.5 is hereby amended by the deletion of the words stricken and addition of the words double-underlined to read as follows:

[F] 915.1.5 Private garages. Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms in buildings with attached private garages.

Exceptions:

1. Carbon monoxide detection shall not be required in ~~dwelling units~~, sleeping units and classrooms without communicating openings between the private garage and the ~~dwelling unit~~, sleeping unit or classroom.
2. Carbon monoxide detection shall not be required in ~~dwelling units~~, sleeping units and classrooms located more than one story above or below a private garage.
3. Carbon monoxide detection shall not be required in sleeping units and classrooms where the private garage connects to the building through an open-ended corridor.
4. Where carbon monoxide detection is provided in an approved location between openings to a private garage and ~~dwelling units~~, sleeping units or classrooms, carbon monoxide detection shall not be required in the sleeping units or classrooms.

Subsection 915.2.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

915.2.1 Dwelling units. Carbon monoxide detection shall be installed in dwelling units outside of each separate sleeping area within fifteen feet (4572 mm) of the entrance to each ~~in the immediate vicinity of the bedrooms.~~ Where a fuel-burning appliance is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

Subsection 915.7 is hereby added as a new subsection to read as follows:

915.7 Where required in existing dwellings. Where interior work requiring a permit occurs in existing Group I or R occupancies that have attached garages or contain fuel-fired appliances, carbon monoxide alarms shall be provided in locations described in Section 915.2.1 through 915.2.2. A listed smoke/carbon monoxide detector may be used if the signals clearly differentiate between the two hazards. Carbon monoxide detectors may be hard wired, plugged into an unswitched outlet or battery powered and attached to the wall or ceiling. Carbon monoxide detectors are not required to be interconnected.

Subsection 1015.2 is hereby amended by the addition of the words double-underlined to read as follows:

1015.2 Where required. *Guards* shall be located along window wells and open-sided walking surfaces, including *mezzanines, equipment platforms, stairs, ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.8.

Exception: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where *guards* in accordance with Section 1029.17.2

Subsections 1030.1, 1030.1.1, and 1030.2 are hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, *emergency escape and rescue* openings shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or *access to only one exit* as permitted by Tables 1006.3.3(1) and 106.3.3(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth story above *grade plane* shall have not fewer than one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard or court* that opens to a *public way*.

Exceptions:

- ~~1. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.~~
21. *Emergency escape and rescue openings* are not required from basements or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.
32. Basements without habitable spaces and having no more than 200 square feet (18.6 m²) in floor area and having ceiling heights less than required in Section 1208.2 shall not be required to have *emergency escape and rescue openings*.
43. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3 where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.1.2 or 903.1.3 *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the basement has one of the following:
 - 4.1. One *means of egress* and one *emergency escape and rescue opening*.
 - 4.2. Two *means of egress*.
4. *Emergency escape and rescue openings* are not required where existing *basements* undergo alterations or repairs except that new sleeping rooms created in an existing *basement* shall be provided with *emergency escape and rescue openings* that comply with section 1030.2 through 1030.5.

1030.1.1 Operational constraints. *Emergency escape and rescue openings* shall be operational from the inside of the room without the use of keys or tools. Window-opening control devices complying with ASTM F2090 shall be permitted for use on windows serving as a required *emergency escape and rescue opening*.

Bars, grilles, grates or similar devices are permitted to be placed over *emergency escape and rescue openings* provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Such bars, grilles, or grates shall weigh no more than 30 pounds (13.6 kg). Where such bars, grilles, grates or similar devices are installed in existing buildings, *smoke alarms*

shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration.

1030.2 Minimum size. *Emergency escape and rescue openings* shall have a minimum net clear opening of 5.7 square feet (0.53 m²).

~~Exception: The minimum net clear opening for grade floor emergency escape and rescue openings shall be 5 square feet (0.46 m²).~~

Section 1207.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

1207.1 Scope. This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent dwelling units, ~~or between dwelling units and adjacent public areas such as halls, corridors, stairs or service areas, and between dwelling units and Group A, B, E, F, H, I, M, R, S and U Occupancies.~~ and between dwelling units and Group A, B, E, F, H, I, M, R, S and U Occupancies.

Section 1206.2 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

1207.2 Air-borne sound. Walls, partitions and floor/ceiling assemblies separating dwelling units from each other, ~~or from public or service areas, and between dwelling units and Group A, B, E, F, H, I, M, R, S and U Occupancies,~~ shall have a sound transmission class (STC) of not less than 50 or not less than 45 if field tested, for air-borne noise where tested in accordance with ASTM E 90. Alternatively, the sound transmission class established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures set forth in ASTM E90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to dwelling unit entrance doors; however, such doors shall be tight fitting to the frame and sill.

Section 1206.3 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

1207.3 Structure-borne sound. Floor/ceiling assemblies between dwelling units, ~~or between a dwelling unit and a public or service area and between dwelling units and Group A, B, E, F, H, I, M, R, S and U Occupancies~~ within the structure shall have an impact insulation class (IIC) rating of not less than 50, or not less than 45 if field tested, where tested in accordance with ASTM E 492. Alternatively, the impact insulation class of floor-ceiling assemblies shall be established by engineering analysis based on a comparison of floor-ceiling assemblies having impact insulation class ratings as determined by the test procedures in ASTM E492.

Section 1208.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

1208.1 Crawl spaces. Crawl spaces shall be provided with not less than one access opening that shall be not less than **1822 inches by 2430 inches (457 mm by 610 mm)(559mm by 762mm).**

Section 1210 is hereby added to read as follows:

SECTION 1210 SECURITY

1210.1 General. The purpose of this section is to establish minimum standards to make dwelling units resistant to unlawful entry and applies to all dwelling units.

1210.2 Door requirements. All main or front entry doors to dwelling units shall be of solid core construction or metal and shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. Such view may be provided by a door viewer having a field of view of not less than 180 degrees.

1210.3 Strike plate installation. In wood frame construction an open space between trimmers and wood door jambs shall be solid shimmed by a single piece extending not less than 12 inches (305 mm) above and below the strike plate.

Strike plates shall be attached to wood with not less than four No. 8 by 3-inch (76 mm) screws, which have a minimum of $\frac{3}{4}$ inch (19 mm) penetration into the nearest stud. Strike plates when attached to metal shall be attached with not less than four No. 8 machine screws.

1210.4 Hinges. When hinges are exposed to the exterior, at least one of the three required hinges shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins not less than three $4\frac{1}{2}$ inch (114 mm) steel butt hinges shall be symmetrically fastened to both the door and the frame with not less than four No.9 by $\frac{3}{4}$ inch (19 mm) wood screws or to metal with not less than four No. 8 machine screws.

In wood construction, an open space between trimmers and wood door jambs shall be solid shimmed extending not less than 6 inches (152 mm) above and below the hinge.

1210.5 Locking hardware. Single swinging doors and the active leaf of doors in pairs shall be equipped with an approved exterior key operating deadbolt.

Subsection 1507.2.4 is hereby amended by the addition of the words double underlined to read as follows:

1507.2.4 Asphalt shingles. Asphalt shingles shall comply with ASTM D3462. Asphalt shingles shall be approved and carry a manufacturer's national wind warranty for a minimum nominal windspeed of 80 mph.

Subsection 1507.2.6 is hereby amended by the addition of the words double underlined to read as follows:

1507.2.6 Attachment. Asphalt shingles shall have the minimum number of fasteners required by the manufacturer, but not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 21 units vertical in 12 units horizontal (21:12, 175-percent slope), shingles shall be installed as required by the manufacturer. All asphalt shingles shall be fastened with a minimum of six fasteners between September 15 and April 15. Shingles that have not sealed at the time of final inspection shall be hand sealed in accordance with the manufacturer's installation instructions.

Subsection 1511.1 is hereby amended by the words stricken and the addition of the words double-underlined to read as follows:

1511.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15.

Exceptions:

1. Roof replacement or roof recover of existing low-slope roof coverings shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 for roofs that provide positive roof drainage and have been evaluated by a registered design professional for the increase in loading due to potential ponding of water.

Subsection 1511.1.2 is hereby added to read as follows:

1511.1.2 Replacement of asphalt shingles. When more than one square of asphalt shingles are required to be replaced over the aggregate area of the roof and a permit is required, every slope containing damaged shingles shall be replaced in its entirety. The interface of different types of shingles shall only occur at a ridge, hip or open valley. All existing layers of asphalt shingles shall be removed to the roof deck.

Subsection 1511.3.1.1 is hereby amended by the addition of the words double-underlined to read as follows:

1511.3.1.1 Exceptions.

A roof recover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is asphalt shingles, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

Subsection 1511.7 is hereby added to read as follows:

1511.7 Modified bitumen, thermoset single-ply or thermoplastic single-ply roofing membranes installation. Modified bitumen, thermoset single-ply or thermoplastic single-ply roofing membranes shall be listed by the manufacturer as either a Factory Mutual I-90 system, a UL Class 30 system, or shall be certified by an approved evaluation service report to withstand a minimum of 45 pounds per square foot of static wind uplift.

Subsection 1511.8 is hereby added to read as follows:

1511.8 Metal panel and structural metal panel roof systems wind uplift design. 1511.8 Metal panel and structural metal panel roof systems wind uplift design. Metal panel and

structural metal panel roof systems shall be installed to resist a minimum of 45 pounds per square foot of uplift as determined by FM 4474, UL 580 or ASTM E 1592 testing.

Subsection 1601.2 and Table 1601.2 are hereby added to read as follows:

1601.2 Design criteria. The design and construction of all buildings shall be in accordance with the Climatic and Geographic Design Criteria Table 1601.2.

**TABLE 1601.2
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

MINIMUM GROUND SNOW LOAD	WIND DESIGN	SEISMIC DESIGN	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP	ICE BARRIER REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost line depth ^a	Termite					
30psf Sec. 1608.2	<u>Section 1603.1.4</u>	<u>Section 1603.1.5</u>	Severe Figure 1904.2	30in	Slight to Moderate	1°F IPC Appendix D	No Section 1507	<u>Section 1612.3</u>	1500°	50°F ^c

For SI: 1 pound per square foot = 0.0479kPa, 1 mile per hour=0.447 m/s

a. Design shall be a minimum of 6 inches (152 mm) below the frost line depth per Section 1809.5

b. IRC Table R403.3(2)

c. National Climatic Data Center data table "Air Freezing Index-USA Method(Base32°F)" www.ncdc.noaa.gov

Subsection 1608.1 is hereby amended by the words stricken and the addition of the words underlined to read as follows:

1608.1 General. Design snow loads shall be determined in accordance with Chapter 7 of ASCE 7, but the design roof load shall not be less than 30 pounds per square foot (2.787 m²) that determined by ~~Section 1607.~~

Subsection 1612.3 is hereby amended by the addition of the words double-underlined, to read as follows:

1612.3 Establishment of flood hazard areas. To establish flood hazard areas, the applicable governing authority shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in a report entitled "The Flood Insurance Study for ~~{INSERT NAME OF JURISDICTION}~~ the City of Thornton" Dated ~~{INSERT DATE OF ISSUANCE}~~ March 5, 2007 as amended or revised with the accompanying Flood Insurance Rate Map 9FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

Subsection 1809.4 is hereby amended by the addition of the words double underlined to read as follows:

1809.4 Depth and width of footings. The minimum depth of footings below the undisturbed ground surface shall be 12 inches (305 mm). Where applicable, the requirements of Section 1809.5 shall also be satisfied. The minimum width of footings shall be 12 inches (305 mm).

Exception: One-story detached accessory structures of light frame construction that do not exceed 200 square feet (18.58 m²) used as tool and storage sheds, playhouses and similar uses, may be supported on skids incorporated into the floor system or on a minimum 4 inch (102 mm) concrete slab. Such structures shall be anchored to the ground with approved materials to resist all applicable loads.

Subsection 1805.4.3 is hereby amended by the deletion of the words stricken to read as follows:

1805.4.3 Drainage discharge. The floor base and foundation perimeter drain shall be designed to collect in a sump and discharge by gravity or mechanical means into an approved drainage system that complies with the *International Plumbing Code*.

~~**Exception:** Where a site is located in well-drained gravel or sand/gravel mixture soils, a dedicated drainage system is not required.~~

Subsection 1809.5 is hereby amended by the addition of the words double underlined to read as follows:

1809.5 Frost Protection. Except where otherwise protected from frost, foundations and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extending 6 inches (152 mm) below the frost line of the locality specified in Table 1601.2;

Subsection 2512.1.2 is hereby amended by the addition of the words double-underlined, to read as follows:

2512.1.2 Weep screeds. A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed, with a minimum vertical attachment flange of 3 1/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas, roof surfaces or other areas of transition; and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

Table 2902.1 footnotes e and g are hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

e. For business and mercantile classifications with an occupant load of 25 or fewer, ~~and mercantile classifications with an occupant load of 42 or fewer,~~ service sinks shall not be required.

f. The required number and type of plumbing fixtures for outdoor swimming pools shall be in accordance with Section 609 of the *International Swimming Pool and Spa Code*.

g. Drinking fountains are not required where only one toilet room is required.

Subsection 3001.6 is hereby added to read as follows:

3001.6 Annual inspections. Following initial installation and approval all commercial conveying systems shall receive a minimum of one inspection per year. Upon approval a Certificate of Inspection shall be issued. The current Certificate of Inspection shall be posted in the machine room and shall be accessible to the inspector for all inspections.

Section 3109 Swimming Pool Enclosures and Safety Devices is hereby repealed in its entirety. Please refer to the 2015 International Swimming Pool and Spa Code.

Sec. 10-153. International Plumbing Code adopted by reference.

The International Plumbing Code, 2018 edition, is published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001. The purpose and subject matter of the International Plumbing Code includes regulating the construction, alteration, and repair of all new and existing structures and specifically all plumbing installations therein or in connection therewith. The International Plumbing Code, 2015 edition, is hereby adopted by this reference and incorporated into this Code as the Plumbing Code of the City. Except as otherwise provided in Section 10-154, the International Plumbing Code, 2018 edition, is adopted in full including the outline of contents and the index, but excluding all appendix chapters, except Appendix E.

2. Section 10-154 of the Code is hereby amended to read as follows:

Sec. 10-154. Amendments to International Plumbing Code.

The International Plumbing Code adopted in Section 10-153 is amended as follows; section numbers refer to section numbers of the International Plumbing Code:

Subsection [A] 101.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

[A] 101.1 Title. These regulations shall be known as the *Plumbing Code* of the City of Thornton~~[NAME OF JURISDICTION]~~, hereinafter referred to as “this code.”

Chapter 1 Part 2-Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Subsection 305.4 is hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

305.4 Freezing. Water, soil and waste pipes shall not be installed outside of a building, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperature unless adequate provision is made to protect such pipes from freezing by insulation or heat or both. Exterior water supply system piping shall be installed not less than 6 inches (152 mm) below the frost line and not less than 12 inches (305 mm) below grade 48 inches (1219 mm) below finished grade.

Subsection 305.4.1 is hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

305.4.1 Sewer depth. Building sewers shall be installed not less than~~[NUMBER]~~ 12 inches (305 mm) below grade.

Subsection 312.1 is hereby amended by the deletion of the words stricken to read as follows:

312.1 Required tests. The permit holder shall make the applicable tests prescribed in Sections 312.2 through 312.10 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the plumbing work is ready for tests. The equipment, material, power and labor necessary for the inspection and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests. All plumbing system piping shall be tested with either water or, ~~for piping systems other than plastic, by air.~~ After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be submitted to final tests. The code official shall require the removal of any cleanouts if necessary to ascertain whether the pressure has reached all parts of the system.

Table 403.1 footnotes e and g are hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

- e. For business and mercantile classifications with an occupant load of 25 or fewer, ~~and mercantile classifications with an occupant load of 42 or fewer,~~ service sinks shall not be required.
- f. The required number and type of plumbing fixtures for outdoor swimming pools shall be in accordance with Section 609 of the *International Swimming Pool and Spa Code*.
- g. Drinking fountains are not required where only one toilet room is required.

Subsection 410.2 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

410.2 Small occupancies. Drinking fountains shall not be required where only one toilet room is required for an occupant load of 15 or fewer.

Subsection 410.4 is hereby amended by the addition of the words double-underlined to read as follows:

410.4 Substitution. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.

Exception: Where only one drinking fountain is required by Table 403.1 a water cooler or bottled water dispenser may be substituted.

Subsection 416.1 is hereby amended by the addition of the words double-underlined to read as follows:

416.1 Approval. Domestic food waste grinders shall be installed under the kitchen sink in all dwelling units and manufactured homes and shall conform to ASSE 1008. Commercial food waste grinders shall conform to ASSE 1009. Food waste grinders shall not increase the *drainage fixture unit* load on the sanitary drainage system.

Subsection 421.2 is hereby amended by the addition of the words double-underlined to read as follows:

421.2 Water supply riser. Water supply risers from the shower valve to the shower head outlet, whether exposed or concealed, shall be attached to the structure. The attachment to the structure shall be made by the use of support devices designed for use with the specific piping material or by fittings anchored with screws. The rough-in height shall be not less than 75 inches (1,905 mm) above the shower or tub drain.

Subsection 421.3 is hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

421.3 Shower waste outlet. Waste outlets serving showers shall be not less than ~~1½~~ 2 inches (~~3850~~mm) in diameter and, for other than waste outlets in bathtubs, shall have removable strainers not less than 3 inches in diameter with strainer openings not less than ¼ inch (6.4 mm) in least dimension. Where each shower space is not provided with an individual waste outlet, the waste outlet shall be located and the floor pitched so that waste from one shower does not flow over the floor area serving another shower. Waste outlets shall be fastened to the waste pipe in an approved manner.

Subsection 504.7 is hereby amended by the addition of the words double underlined to read as follows:

504.7 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan shall not be installed beneath a gas-fired water heater.

Exception: Where the Building Official deems it impractical due to space restrictions to install a pan for a replacement water heater where a drain pan was not previously installed, a water alarm device may be used in lieu of the pan.

Subsection 604.8 is hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

604.8 Water-pressure reducing valve or regulator. The maximum static pressure within a building shall be 80 psi (551 kPa). ~~Where water pressure within a buildig exceeds 80 psi (552kPa) static, a~~ An approved water-pressure reducing valve conforming to ASSE 1003 or CSA B356 with strainer shall be installed to reduce the pressure in the building water distribution piping to not greater than 80 psi (552 kPa) static.

Subsection 705.10.2 is hereby amended by the deletion of the words stricken to read as follows:

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

Exception: A primer is not required where both of the following conditions apply:

1. ~~The solvent cement used is third party certified as conforming to ASTM D 2564.~~
2. ~~The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in nonpressure applications in sizes up to and including 4 inches (102 mm) in diameter.~~

Subsection 706.3 is hereby amended by the deletion of the words stricken to read as follows:

706.3 Installation of fittings. Fittings shall be installed to guide sewage and waste in the direction of flow. Change in direction shall be made by fittings installed in accordance with Table 706.3. Change in direction by combination fittings, side inlets or increasers shall be installed in accordance with Table 706.3 based on the pattern of flow created by the fitting. Double sanitary tee patterns shall not receive the discharge of back-to-back water closets and fixtures or appliances with pumping action discharge.

Exception: ~~Back to back water closet connections to double sanitary tees shall be permitted where the horizontal developed length between the outlet of the water closet and the connection to the double sanitary tee pattern is 18 inches (457 mm) or greater.~~

Table 709.1 is hereby amended by the deletion of the words stricken and the addition of the words double underlined to read as follows:

**TABLE 709.1
DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS**

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS	MINIMUM SIZE OF TRAP (inches)
Automatic clothes washers commercial ^{a g}	3	2
Automatic clothes washers residential	2	2
Bathroom group as defined in Section 202 (1.6 gpf water closet) ^f	5	—
Bathroom group as defined in Section 202 (water closet flushing greater than 1.6 gpf) ^f	6	—
Bathtub (with or without overhead shower or whirlpool attachments)	2	1½
Bidet	1	1 ¼
Combination sink and tray	2	1½
Dental lavatory	1	1 ¼
Dental unit or cuspidor	1	1 ¼
Dishwashing machine c domestic	2	1½
Drinking fountain	½	1 ¼
Emergency floor drain	0	2
Floor drains ^h	2 ^h	2
Floor sinks	Note h	2
Kitchen sink domestic	2	1½

Kitchen sink domestic with food waste grinder and/or dishwasher	2	1½
Laundry tray (1 or 2 compartments)	2	1½
Lavatory	1	1 ¼
Shower (based on the total flow rate through showerheads and body sprays)		
Flow rate:		
5.7 gpm or less	2	1½ <u>2</u>
Greater than 5.7 gpm to 12.3 gpm	3	2
Greater than 12.3 gpm to 25.8 gpm	5	3
Greater than 25.8 gpm to 55.6 gpm	6	4
Service sink	2	1½
Sink	2	1½
Urinal	4	Note d
Urinal 1 gallon per flush or less	2 ^e	Note d
Urinal non-water supplied	½	Note d
Wash sink (circular or multiple) each set of faucets	2	1½
Water closet flushometer tank public or private	4 ^e	Note d
Water closet private (1.6 gpf)	3 ^e	Note d
Water closet private (flushing greater than 1.6 gpf)	4 ^e	Note d
Water closet public (1.6 gpf)	4 ^e	Note d
Water closet public (flushing greater than 1.6 gpf)	6 ^e	Note d

For SI: 1 inch = 25.4 mm, 1 gallon = 3.785 L, gpf = gallon per flushing cycle, gpm = gallon per minute.

- a. For traps larger than 3 inches, use Table 709.2.
- b. A showerhead over a bathtub or whirlpool bathtub attachment does not increase the drainage fixture unit value.
- c. See Sections 709.2 through 709.4.1 for methods of computing unit value of fixtures not listed in this table or for rating of devices with intermittent flows.
- d. Trap size shall be consistent with the fixture outlet size.
- e. For the purpose of computing loads on building drains and sewers, water closets and urinals shall not be rated at a lower drainage fixture unit unless the lower values are confirmed by testing.
- f. For fixtures added to a bathroom group, add the dfu value of those additional fixtures to the bathroom group fixture count.
- g. See Section 406.3 for sizing requirements for fixture drain, branch drain and drainage stack for an automatic clothes washer standpipe.
- h. See Sections 709.4 and 709.4.1.

Subsection 903.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

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

Subsection 918.7 is hereby amended by the addition of the words double-underlined to read as follows:

918.7 Vent required. Within each plumbing system, not less than one stack vent or vent stack shall extend outdoors to the open air. Each tenant space within a single story, multitenant commercial building shall have not less than one stack vent or vent stack that extends outdoors to the open air.

Subsection 1002.1.1 is hereby added to read as follows:

1002.1.1 Hair traps. All fixtures whose intended purpose is for the washing of hair, including pet grooming facilities, shall be equipped with an approved hair trap.

Subsection 1101.3 is hereby amended by the addition of the words double-underlined to read as follows:

1101.3 Prohibited drainage. Storm water shall not be drained into sewers intended for sewage only. Storm water shall not discharge directly over exit doors or across sidewalks and walkways. Roof areas shall not shed onto exit doors or parking areas.

Subsection E103.1 of Appendix E is hereby amended by the addition of the words double-underlined to read as follows:

E103.1 General. Decide from Table 604.3 what is the desirable minimum residual pressure that should be maintained at the highest fixture in the supply system. If the highest group of fixtures contains flushometer valves, the pressure for the group should be not less than 15 pounds per square inch (psi) (103.4 kPa) flowing. For flush tank supplies, the available pressure should be not less than 8 psi (55.2 kPa) flowing, except blowout action fixtures must be not less than 25 psi (172.4 kPa) flowing. Velocities within the piping supply system shall not exceed 10 feet per second (3.05 meter per second) or as specified by the Manufacturer, whichever is least) except by prior approval of the Building Official. Meter sizing shall be by the "City of Thornton Standards and Specifications for the Design and Construction of Public Improvements".

Subsection E201 and Table E201.1 are hereby repealed in their entirety.

3. Section 10-155 of the Code is repealed and reenacted to read as follows:

Sec. 10-155. International Mechanical Code adopted by reference.

The International Mechanical Code, 2018 edition, is published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001, is hereby adopted by this reference and incorporated in this Code as the Mechanical Code of the City. The purpose and subject matter of the International Mechanical Code includes the regulation of the construction, alteration, and repair of all new and existing structures and specifically all mechanical installations therein or in connection therewith. Except as otherwise provided in this Code, the International Mechanical Code, 2018 edition, is adopted in full, including the outline of contents and the index, but excluding all appendix chapters.

4. Section 10-156 of the Code is hereby amended to read as follows:

Sec. 10-156. Amendments to the International Mechanical Code.

The International Mechanical Code adopted in Section 10-155 is amended as follows; section numbers refer to section numbers of the International Mechanical Code:

Subsection [A] 101.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

[A] 101.1 Title. These regulations shall be known as the *Mechanical Code* of ~~[NAME OF JURISDICTION]~~, the City of Thornton, hereinafter referred to as “this code.”

Chapter 1 Part 2-Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

5. Section 10-157 of the Code is hereby repealed and reenacted to read as follows:

Sec. 10-157. International Fuel Gas Code adopted by reference.

The International Fuel Gas Code, 2018 edition, is published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001, is hereby adopted by this reference and incorporated in this Code as the Fuel Gas Code of the City. The purpose and subject matter of the International Fuel Gas Code includes the design and installation of fuel gas systems and gas-fired appliances. Except as otherwise provided in this Code, the International Fuel Gas Code, 2018 edition, is adopted in full, including the outline of contents and the index, but excluding all appendix chapters.

6. Section 10-158 of the Code is hereby amended to read as follows:

Sec. 10-158. Amendments to the International Fuel Gas Code.

The International Fuel Gas Code adopted in Section 10-157 is amended as follows; section numbers refer to section numbers of the International Fuel Gas Code:

Subsection [A] 101.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

[A] 101.1 Title. These regulations shall be known as the *Fuel Gas Code* of ~~[NAME OF JURISDICTION]~~, the City of Thornton, hereinafter referred to as “this code.”

Subsection [A] 102.2.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

[A] 102.2.1 Existing buildings. Additions, alterations, renovations or repairs related to building or structural issues shall be regulated by the *International Existing Building Code* ~~*international Building Code*~~.

Chapter 1 Part 2-Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Subsection 404.12 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

404.12 Minimum burial depth. Underground *pipng systems* shall be installed a minimum depth of 12 inches (305 mm) below grade, ~~except as provided for in Section 404.12.1.~~ Underground plastic piping systems shall be installed a minimum depth of 18 inches (457 mm) below grade.

Subsection 404.12.1 is hereby repealed in its entirety.

Subsection 406.4.1 is hereby repealed and reenacted to read as follows:

406.4.1 Test pressure. The minimum test pressure for a low-pressure gas system shall be 20 pounds per square inch (137.9 kPa) for 15 minutes. Low-pressure gas shall be defined as 14 inches of water column or less. The minimum test pressure for any other gas system shall be 60 pounds per square inch (413.7 kPa) for 30 minutes.

Subsection 406.4.2 is hereby repealed in its entirety.

Subsection 503.4.1 is hereby amended by the addition of the words double-underlined to read as follows:

503.4.1 Plastic piping. Where plastic piping is used to vent an appliance, the appliance shall be listed for use with such venting materials and the appliance manufacturer's installation instructions shall identify the specific plastic piping material. The plastic pipe venting materials shall be labeled in accordance with the product standards specified by the appliance manufacturer or shall be listed in accordance with UL 1738. Plastic cellular core or foam core pipe shall not be used to vent fuel burning appliances.

7. Section 10-162 of the Code is hereby repealed and reenacted to read as follows:

Sec. 10-162. National Electrical Code adopted by reference.

The National Electrical Code, 2017 edition, copyright 2016 by the National Fire Protection Association, is adopted by reference thereto and incorporated into this Code as the Electrical Code of the City. The purpose and subject matter of the National Electrical Code includes minimum regulations for the practical safeguarding of persons and property from the hazards arising from the use of electricity. Except as otherwise provided in Section 10-163, the National Electrical Code, 2017 edition, is adopted in full, including the outline of contents and index contained therein.

8. Section 10-163 of the Code is hereby amended to read as follows:

Sec. 10-163. Amendments to National Electrical Code.

The National Electrical Code adopted in Section 10-162 is amended as follows; article numbers refer to article numbers of the National Electric Code.

Article 110.5 is hereby amended by the addition of the words double underlined to read as follows:

110.5 Conductors. Conductors normally used to carry current shall be of copper unless otherwise provided in this Code. Where the conductor material is not specified, the material and the sizes given in this Code shall apply to copper conductors. Where other materials are used, the size shall be changed accordingly. Aluminum conductors number 10 AWG or smaller are prohibited from use in the City of Thornton.

Article 210.50 is hereby amended by the addition of a new section (D) to read as follows:

(D) Required Outlet for Sump Pit. A receptacle outlet shall be required within 6 feet (1828.8 mm) of the bottom of all sump pits.

Article 220.14(I) is hereby amended by the addition of the words double underlined to read as follows:

220.14(I) Receptacle Outlets. Except as covered in 220.14(J) and (K), receptacle outlets shall be calculated at not less than 180 volt-amperes for each single or for each multiple receptacle on one yoke. A single piece of equipment consisting of a multiple receptacle comprised of four or more receptacles shall be calculated at not less than 90 volt-amperes per receptacle. This provision shall not be applicable to the receptacle outlets specified in 210.11(C)(1) and (C)(2).

(1)For dwellings, the number of general purpose outlets shall not exceed 8 on a 15-ampere circuit and 10 on a 20-ampere circuit.

Article 250.50 is hereby amended by the addition of the words double underlined to read as follows:

250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used. **Where a metal underground water pipe does not exist, there shall be provided two (2) electrodes of rods of iron or steel installed in accordance with Article 250.56.**

Article 250.118 is hereby amended by the addition of the words double underlined to read as follows:

250.118 Types of Equipment Grounding Conductors. The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following **except that items 2--14 may not be used as the equipment grounding conductor for panel feeders:**

9. Section 10-164 of the Code is hereby repealed and reenacted to read as follows:

Sec. 10-164. International Residential Code adopted by reference.

The International Residential Code, 2018 edition, published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001., is hereby adopted by this reference and incorporated in this Code as the Residential Code of the City. The purpose and subject matter of the International Residential Code includes the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of one and two-family dwellings and townhouses not more than three stories in height, and providing for the issuance of permits and collection of fees therefore. Except as otherwise provided in this Code, the International Residential Code,

2018 edition, is adopted in full including the outline of contents and the index, but excluding all appendix chapters, except Appendix H and Appendix K.

10. Section 10-165 of the Code is hereby amended to read as follows:

Sec. 10-165. Amendments to the International Residential Code.

The International Residential Code adopted in Section 10-164 is amended as follows; section numbers refer to section numbers of the International Residential Code:

Subsection R101.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

R101.1 Title. These provisions shall be known as the *Residential Code for One- and Two-family Dwellings* of ~~[NAME OF JURISDICTION]~~the City of Thornton, and shall be cited as such and will be referred to herein as “this code.”

Subsection R102.7 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

R102.7 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this Code, the *International Existing Building Code* ~~*International Property Maintenance Code*~~ or the *International Fire Code*, or as is deemed necessary by the *building official* for the general safety and welfare of the occupants and the public.

Chapter 1 Part 2-Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Subsection R202 is hereby amended by the addition of the words double underlined to read as follows:

Section R202 SLEEPING ROOM. A habitable space that meets the minimum area requirements of the building code, and, contains a *closet* or an area that is readily convertible to a *closet*. An adjacent area fitted with permanently affixed floor to ceiling shelving and no clothes rod may be defined as a storage room in a non-sleeping room.

Table R301.2(1) is hereby completed to read as follows:

**Table R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j		
	Speed ^d (mph)	Topographic effects/Special Wind Region/Wind-bourne debris zone		Weathering ^a	Frost line depth ^b	Termite ^c							
30 psf	See footnote q	NO	B	Severe	30 in. ^r	Slight to Mod	1°F	NO	Dep	1500	45°F		
MANUAL J DESIGN CRITERIA ⁿ													
Elevation		Latitude		Winter heating		Summer cooling		Altitude correction factor		Indoor temperature design		design temp cooling	Heating temperature difference
5,344 ft		40°N		1°F		91°F		0.84		70°F		75°F	69°F
Cooling temperature difference		Wind velocity heating		Wind velocity cooling		Coincident wet bulb		Daily range		Winter Humidity		Summer humidity	
16°F		15mph		7.5mph		59°F		High(H)		50%		50%	

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97^{1/2}-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2.1, the jurisdiction shall indicate the wind-bourne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.
- o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R301.2(6)

- p. This information is available in the Development Engineering Division.
- q. Wind speed design may be based on 90 mph(145 km/h) 3 second gust or 80 mph (129km/h) sustained
- r. Design to be 6 inches (152 mm) below the Frost line depth per Section 403.1.4.1This information is available in the Development Engineering Division.

Subsection R302.1 is hereby amended by the addition of the words double underlined to read as follows:

**TABLE R302.1(1)
EXTERIOR WALLS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E 119 or UL 263 or section 703.3 of the <i>International Building Code</i> with exposure from both sides	0 feet [±]
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Not allowed	N/A	<2
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{a,b}	≥2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings	Not allowed	N/A	< 3 feet
	25% Maximum of Wall Area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet

For SI: 1 foot = 304.8 mm.

N/A = Not applicable

- a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed.
- c. Fire separation distance of 3 feet (914 mm) can be used if the exterior wall cladding and trim is of non-combustible material. No fire-resistance-rating required.

Subsection R302.3 is hereby amended by the addition of the words double-underlined to read as follows:

R302.3 Two-family dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E 119, UL 263, or Section 703.3 of the *International Building Code*. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.
3. Dwelling units in two-family dwellings divided by a legal property line shall be separated by fire-resistance-rated wall assemblies meeting the requirements of Section R302.2 for Townhouses.

Subsection R302.5.1 is hereby amended by the addition of the words double-underlined to read as follows:

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors, equipped with self-closing or automatic-closing device and a self-latching device.

Subsection R302.13 is hereby repealed in its entirety.

Subsections R305.1 and R305.1.1 are hereby repealed in their entirety and replaced with the following:

R305.1 Minimum height. Habitable space shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) measured to the lowest projection from the ceiling except as otherwise permitted in this section. Hallways, bathrooms, toilet rooms, and laundry rooms shall have a ceiling height of not less than 7 feet (2134 mm) measured to the lowest projection from the ceiling. The required height shall be measured from the finish floor to the lowest projection from the ceiling. Any basement with a finished floor of wood, concrete or other permanent material shall have a rough ceiling height of 7 feet 6 inches (2286 mm).

Exceptions:

1. For rooms with sloped ceilings, at least 50 percent of the required floor area of the room must have a ceiling height of at least 7 feet (2134 mm) and no portion of the required floor area may have a ceiling height of less than 5 feet (1524 mm).
2. Beams, girders and ductwork spaced not less than 4 feet (1219 mm) on center may project not more than 6 inches (152 mm) below the required ceiling height.

Subsection R306.2 is hereby amended by the addition of the words double-underlined to read as follows:

R306.2 Kitchen. Each *dwelling* unit shall be provided with a kitchen area and every kitchen area shall be provided with a sink and garbage disposal.

Subsections R310.1, R310.2.1, R310.2.3, and R310.4 are hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

R310.1 Emergency escape and rescue required. *Basements*, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Where *basements* contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a *yard* or court that opens to a public way.

Exceptions:

1. Storm shelters and *Basements* used only to house mechanical *equipment* and not exceeding total floor area of 200 square feet (18.58 m²) and having ceiling heights less than that required by Section 305.1.
2. ~~Where the dwelling or townhouse is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:~~
 - 2.1 ~~One means of egress complying with Section R311 and one emergency escape and rescue opening.~~
 - 2.2 ~~Two means of egress complying with Section R311.~~

R310.2.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m²). The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. The net clear height opening shall be not less than 24 inches (610 mm) and the net clear width shall be not less than 20 inches (508mm).

Exception: ~~Grade floor openings or below-grade openings shall have a minimum net clear opening of 5 square feet (0.465 m²).~~

R310.2.3 Window wells. All below grade windows in unfinished basements shall meet the size requirements of an egress window and shall be provided with a window well meeting the following requirements. The horizontal area of the window well shall be 9 square feet (0.9 m²), with a horizontal projection and width of not less than 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

R310.4 Bars, grilles, covers and screens. Where bars, grilles, covers, screens or similar devices are placed over emergency escape and rescue openings, area wells, or window wells, the minimum net clear opening size shall comply with Section R310.2.1 through R310.2.3, and such devices shall weigh no more than 30 lbs (13.6 kg), and be releasable or removable

from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening.

Subsections R311.2 and R311.3 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

R311.2 Egress door. Not less than one egress door shall be provided for each *dwelling* unit. The egress door, and other exterior doors including the door from the dwelling to an attached garage, shall be side-hinged, and shall provide a minimum clear width of 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall not be less than 80 inches (2032 mm) ~~78 inches (1981 mm)~~ in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the *dwelling* without the use of a key or special knowledge or effort.

Exception: Sliding glass doors located in an exterior wall may be less than 32 inches (813 mm) minimum clear width but must be a minimum of 80 inches (2032 mm) in height.

Subsection R311.3.2 is hereby amended by the deletion of the words stricken to read as follows:

R311.3.2 Floor elevations at other exterior doors. Doors other than the required egress door shall be provided with landings or floors not more than 7 ¾ inches (196 mm) below the top of the threshold.

~~Exception:~~ ~~A top landing is not required where a stairway of not more than risers is located on the exterior side of the door, provided the door does not swing over the stairway.~~

Subsections R311.7.7 is hereby amended by the addition of the words double-underlined to read as follows:

R311.7.7 Stairway and landing walking surface. The walking surface of treads and landings of stairways shall be sloped not steeper than one unit vertical in 48 inches horizontal (2-percent slope). The landing at the bottom of exterior stairways shall be a solid, durable surface.

Subsections R312.1.1 is hereby amended by the addition of the words double-underlined to read as follows:

R312.1.1 Where required. Guards shall be provided for those portions of open-sided walking surfaces, including stairs, ramps and landings, that are located within 36" of window wells, or more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

Subsection R313.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

R313.1 Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system ~~shall~~ may be installed in townhouses.

Exception: An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic fire sprinkler system installed

Subsection 313.2 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

R313.2 One- and two-family dwellings automatic fire systems. An automatic residential fire sprinkler system ~~shall~~ may be installed in one- and two-family *dwellings*.

Exception: An automatic residential fire sprinkler system shall not be required for *additions* or *alterations* to existing buildings that are not already provided with an automatic residential sprinkler system.

Subsection R315.2.2, R315.3, and R315.4 are hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

R315.2.2 Alterations, repairs and additions. Where alterations, repairs or additions requiring a permit occur, or where one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

Exceptions:

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, is exempt from the requirements of this section.
2. Installation, alteration or repairs of plumbing ~~or mechanical~~ systems are exempt from the requirements of this section.

R315.3 Location. Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area ~~in the immediate vicinity~~ within 15 feet (4572 mm) of the each bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

R315.4 Combination alarms. Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms if the signals clearly differentiate between the two hazards.

Section R324.6.1 is hereby amended by the addition of words double underlined to read as follows:

R324.6.1 Pathways. Not fewer than two pathways, on separate roof planes from lowest roof edge to ridge and not less than 36 inches (914 mm) wide, shall be provided on all buildings. No fewer than one pathway shall be provided on the street or driveway side of the roof. For

each roof plane with a photovoltaic array, a pathway not less than 36 inches (914 mm) shall be provided from the lowest roof edge to ridge on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, mechanical equipment and roof eaves less than 7 feet (2134 mm) above and within the required access aisle.

Section R328 is hereby added to read as follows:

SECTION R328 SECURITY

R327.1 General. The purpose of this section is to establish minimum standards to make dwelling units resistant to unlawful entry and applies to all dwelling units.

R327.2 Door Requirements. All main or front entry doors to dwelling units shall be of solid core construction or metal and shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. Such view may be provided by a door viewer having a field of view of not less than 180 degrees.

R327.3 Strike plate installation. In wood frame construction an open space between trimmers and wood door jambs shall be solid shimmed by a single piece extending not less than 12 inches (305 mm) above and below the strike plate.

Strike plates shall be attached to wood with not less than four No. 8 by 3-inch (76 mm) screws, which have a minimum of ¾ inch (19 mm) penetration into the nearest stud. Strike plates when attached to metal shall be attached with not less than four No. 8 machine screws.

R327.4 Hinges. When hinges are exposed to the exterior, at least one of the three required hinges shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins. Not less than three 4 ½ inch (114 mm) steel butt hinges shall be symmetrically fastened to both the door and the frame with not less than four No.9 by ¾ inch (19 mm) wood screws or to metal with not less than four No. 8 machine screws.

In wood construction, an open space between trimmers and wood door jambs shall be solid shimmed extending not less than 6 inches (152 mm) above and below the hinge.

R327.5 Locking hardware. Single swinging doors and the active leaf of doors in pairs shall be equipped with an approved exterior key operating deadbolt.

Section R329 is hereby added to read as follows:

SECTION R329 MANUFACTURED HOMES

R328.1 General. All manufactured homes shall be installed and inspected in accordance with the State of Colorado Manufactured Home Installation Program and the provisions of this section. All manufactured home inspections shall be conducted by the Building Inspection Division.

R328.2 Existing Manufactured Homes

1. Whenever a manufactured home is in existence in the City on the effective date of the ordinance from which this section derives or was annexed to the City after the effective date and such manufactured home complies with all applicable codes and ordinances then in effect, the manufactured home shall be considered to be legally nonconforming and shall not be subject to the provisions of this section.

2. In the event that any such legally nonconforming manufactured home is removed from its location, the manufactured home shall not be replaced or relocated, except in conformance with all applicable provisions of the building code. In addition, if the use of such manufactured home is discontinued for a period of six consecutive months or more, the manufactured home shall not be reoccupied until it is in conformance with all applicable regulations in the building code.

R328.3 Additions, alterations and repairs. Additions, alterations and repairs to manufactured homes shall be designed and constructed in accordance with the currently adopted residential code. Additions and alterations shall be structurally independent from the manufactured home.

Exception: A structural separation need not be provided when the plans and specifications have been prepared and sealed by a design professional.

R328.4 Definition MANUFACTURED HOME PARK The terms manufactured home park (MHP) or manufactured home rental community (park) are interchangeable terms for the purposes of this section meaning a unified residential development of manufactured homes arranged on a lot under a single ownership.

R328.5 Skirting and permanent perimeter enclosures. Skirting and permanent perimeter enclosures shall be installed on all manufactured home within 60 days of approval of the utilities inspection. Skirting shall be of material suitable for exterior exposure and contact with the ground. Permanent perimeter enclosures shall be constructed of materials as required by this code for regular foundation construction.

Skirting shall be installed in accordance with the skirting manufacturer's installation instructions. Skirting shall be adequately secured to assure stability, to minimize vibration and susceptibility to wind damage, and to compensate for possible frost heave.

All skirting shall have one or more openings not less than 18 inches (457 mm) in any dimension and not less than 3 square feet (.2787 m²) in area so constructed and located to allow convenient access to all points of utilities connections. The location and design of such openings shall be approved by the Building Inspection Division.

R328.6 Smoke detectors. Manufactured homes built prior to March 2003 shall be equipped with battery powered smoke detectors with a battery rated for a 10-year life, provided the smoke detector is listed for use with a 10-year battery. The smoke detectors shall be placed as required by the currently adopted residential code.

Manufactured homes built in March 2003 and later shall have each smoke detector powered from either the electrical system of the home as the primary power source and a battery as a secondary power source; or a battery rated for a 10-year life, provided the smoke detector is listed for use with a 10-year battery. The smoke detectors shall be placed as required by the currently adopted residential code.

Regardless of the power source, smoke detectors are required to be interconnected such that the activation of any one smoke detector will cause the alarm to be triggered in all required smoke detectors in the home.

R328.7 Carbon monoxide detectors. Carbon monoxide detectors shall be installed in accordance with the provisions of section R315 of this code.

R328.8 Accessory buildings and structures. The following general requirements apply to all mobile home accessory buildings and structures:

1. Location on space. Accessory buildings and structures shall not obstruct required openings for light and ventilation of the mobile home and shall not prevent inspection of mobile home equipment and utility connections.

2. Construction. Every accessory building or structure shall be designed and constructed in accordance with the applicable provisions of all City building and construction codes, laws and ordinances.

All awnings and carports within manufactured home parks shall conform with the following specific requirements:

1. Generally. An awning or carport may be erected, constructed or maintained on a manufactured home space only as an accessory to a manufactured home located on the same space. An awning shall not be enclosed with rigid materials or walls or converted for use as a habitable room or cabana, unless the completed construction complies with all the requirements for a cabana.

2. Location. Awnings or carports may be attached to the manufactured home when in compliance with section R328.3

3. Exits from awning enclosure. An awning with enclosures of non-rigid materials shall have at least one door in the enclosure opening directly to the outside of the enclosure. The opening shall be not less than 28 inches (711 mm) in width nor less than six feet, two inches in height (1880 mm). Two such door openings shall be provided from the enclosure when the enclosure encloses two doors of the manufactured home.

Cabanas within manufactured home parks shall conform with the following specific requirements:

1. Design and construction. A cabana shall be designed and constructed as a structurally independent structure. A cabana may be attached to a manufactured home with appropriate flashing or sealing materials to provide a weather seal.

2. Dimensions.

a. The height of a cabana shall not exceed the height of the manufactured home.

b. A cabana shall have a minimum ceiling height of seven feet (2134mm) from the finished floor. If the ceiling or roof is sloped, one-half of the sloped ceiling area shall meet the minimum ceiling height. No portion of any room having a ceiling height of less than five feet (1524 mm) shall be considered as contributing to the minimum area required in this subsection.

c. Habitable rooms shall be not less than seven feet (2134 mm) in any horizontal dimension.

Section R403.1 is hereby amended by the addition of words double-underlined to read as follows:

R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, crushed stone footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads to the soil within the limitations as determined from the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill. Concrete footing shall be designed and constructed in accordance with the provisions of Section R403 or in accordance with ACI 332.

Exception: Premanufactured one-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet (18.58 m²) may be supported on skids incorporated into the floor system. Such structures shall be anchored to the ground with approved materials to resist all applicable loads.

Subsection R403.1.4.1 is hereby amended by the addition of the words double-underlined, to read as follows:

R403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extended 6 inches (152 mm) below the frost line specified in Table R301.2.(1)

Subsection R405.1 is hereby amended by the deletion of the words stricken to read as follows:

R405.1 Concrete or masonry foundations. Drains shall be provided around concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below *grade*. Drainage tiles, gravel or crushed stone drains, perforated pipe or other *approved* systems or materials shall be installed at or below the top of the footing or below the bottom of the slab and shall be designed to collect in a sump and discharge by gravity or mechanical means into an *approved* drainage system. Gravel or crushed stone drains shall extend not less than 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an *approved* filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an *approved* filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles or perforated pipe shall be placed on not less than 2 inches (51 mm) of washed gravel or crushed rock not less than one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

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

Subsection R408.4 is hereby amended by the deletion of the words stricken, and addition of the words double-underlined, to read as follows:

R408.4 Access. Access shall be provided to all under-floor spaces. Access openings through the floor shall be not smaller than ~~18²²~~ inches by ~~24³⁰~~ inches (~~457 mm by 610 mm~~)(559mm by 762mm). Openings through a perimeter wall shall be not less than 16 inches by 24 inches (407 mm by 610 mm). Where any portion of the through-wall access is below *grade*, an areaway not less than 16 inches by 24 inches (407 mm by 610 mm) shall be provided. The bottom of the areaway shall be below the threshold of the access opening. Through wall access openings shall not be located under a door to the residence. See Section M1305.1.4 for access requirements where mechanical *equipment* is located under floors.

Subsection R703.6.2.1 is hereby amended by the addition of the words double-underlined, to read as follows:

R703.6.2.1 Weep screeds. A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant or plastic weep screed, with a minimum vertical attachment flange of 3 1/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas, roof surfaces, or other areas of transition; and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

Subsection R703.4 item 6 is hereby amended by the addition of the words double-underlined, to read as follows:

6. At wall and roof intersections, Siding, plaster, masonry and similar cladding materials shall be lapped over the flashing and installed a minimum of 2 inches (51 mm) above the surface of the roof.

Subsection R905.2.4 is hereby amended by the addition of the words double-underlined, to read as follows:

R905.2.4 Asphalt shingles. Asphalt shingles shall comply with D 3462. Asphalt shingles shall be approved and carry a manufacturer's national wind warranty for a minimum nominal windspeed of 80 mph (128.7 km/h).

Subsection R905.2.6 is hereby amended by the addition of the words double-underlined, to read as follows:

R905.2.6 Attachment. Asphalt shingles shall have the minimum number of fasteners required by the manufacturer's approved installation instructions, but not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 21 units vertical in 12 units horizontal (21:12, 175-percent slope), shingles shall be installed as required by the manufacturer's approved installation instructions. All asphalt shingles shall be fastened with a minimum of six fasteners between September 15 and April 15. Shingles that have not sealed at the time of final inspection shall be hand sealed in accordance with the manufacturer's installation instructions.

Subsection R908.1 is hereby amended by the deletion of the words stricken to read as follows:

R908.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 9.

Exceptions:

1. Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section R905 for roofs that provide positive roof drainage, and have been evaluated by a registered design professional for the increase in loading due to potential ponding of water.

Subsection R908.1.1 is hereby added to read as follows:

R908.1.1 Extent of replacement. When more than one square of asphalt shingles are required to be replaced over the aggregate area of the roof and a permit is required, every slope containing damaged shingles shall be replaced in its entirety. The interface of different types of shingles shall only occur at a ridge, hip or open valley.

Subsection R908.3.1.1 is hereby amended by the deletion of the words stricken to read as follows:

R908.3.1.1 Roof recover not allowed. A roof re-cover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is asphalt shingles, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

Subsections N1103.3.3(R403.3.3) and N1103.3.4(R403.3.4) are hereby repealed in their entirety and replaced with the following:

N1103.3.3 (R403.3.3) Duct testing (Mandatory).

Ducts shall be pressure tested to determine air leakage by a rough-in test. The total leakage shall be measured with a pressure differential of 0.1 inch w.g.(25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.

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

Part IV Energy Conservation is hereby repealed in its entirety. Please refer to the International Energy Conservation Code Residential Provisions.

Subsection M1602.2 is hereby amended by the addition of the words double-underlined to read as follows:

M1602.2 Return air openings. Return air openings for heating, ventilation and air-conditioning systems shall be provided from each story and finished basement and shall comply with all of the following:

Subsection G2406.2 (303.3) is hereby amended by the deletion of the words stricken to read as follows:

G2406.2 Prohibited locations. Appliances shall not be located in sleeping rooms, bathrooms, toilet rooms, storage closets or surgical rooms, or in a space that opens ~~only~~ into such rooms or spaces, except where the installation complies with one of the following:

Subsection G2415.12 (404.12) is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

G2415.12 (404.12) Minimum burial depth. Underground *pipng systems* shall be installed a minimum depth of 12 inches (305 mm) below grade. ~~Except as provided for in Section G2415.10.4~~ Underground plastic piping systems shall be installed a minimum depth of 18 inches (457 mm) below grade.

Subsection G2415.12.1 (404.12.1) is hereby repealed in its entirety.

Subsection G2417.4.1 (406.4.1) is hereby repealed and reenacted to read as follows:

G2417.4.1 (406.4.1) Test pressure. The minimum test pressure for a low-pressure gas system shall be 20 pounds per square inch (138 kPa) for 15 minutes. Low-pressure gas shall be defined as 14 inches of water column or less. The minimum test pressure for any other gas system shall be 60 pounds per square inch (413.7 kPa) for 30 minutes.

Subsection G2417.4.2 (406.4.2) is hereby repealed in its entirety.

Subsection G2427.4.1 is hereby amended by the addition of the words double-underlined to read as follows:

G2427.1 (503.4.1) Plastic piping. Where plastic piping is used to vent an appliance, the appliance shall be listed for use with such venting materials and the appliance manufacturer's installation instructions shall identify the specific plastic piping material. The plastic pipe venting materials shall be labeled in accordance with the product standards specified by the appliance manufacturer or shall be listed in accordance with UL 1738. Plastic cellular core or foam core pipe shall not be used to vent fuel burning appliances.

Subsection P2601.4 is hereby added to read as follows:

P2601.4 Separate connections required. A separate water service and sanitary sewer connection is required for each dwelling unit in 2-family Dwellings and Townhomes.

Subsection P2603.5 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

P2603.5 Freezing. In localities having a winter design temperature of 32°F (0°C) or lower as shown in Table R301.2 (1) of this code, a water, soil or waste pipe shall not be installed outside of a building, in exterior walls, in attics or crawl spaces, or in any other place subjected to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall be installed not less than 48 inches (1219 mm) below finish grade ~~12 inches (305 mm) deep and not less than 6 inches (152 mm) below the frost line.~~

Subsection P2603.5.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

P2603.5.1 Sewer depth. ~~Building sewers that connect to private sewage disposal systems shall be a not less than [NUMBER] inches (mm) below finished grade at the point of septic tank connection.~~ Building sewers shall be not less than 12 inches (305 mm) below grade.

Subsection P2708.3 is hereby amended by the addition of the words double-underlined to read as follows:

P2708.3 Water supply riser. Water supply risers from the shower valve to the shower head outlet, whether exposed or concealed, shall be attached to the structure using support devices designed for use with the specific piping material or fittings anchored with screws. The rough-in height shall be not less than 75 inches (1,905 mm) above the shower or tub drain.

Subsection P2801.6 is hereby amended by the addition of the words double-underlined to read as follows:

P2801.6 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan beneath a gas-fire water heater shall be constructed of material having a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.

Exception: Where the Building Official deems it impractical to install a pan for a replacement water heater due to space restrictions, a water alarm device may be used in lieu of the pan.

Subsection P2903.3.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

P2903.3.1 Maximum pressure. The maximum static water pressure shall be not greater than 80 psi (551 kPa). ~~When main pressure exceeds 80 psi (551 kPa), an~~ An approved pressure-reducing valve conforming to ASSE 1003 or CSA B356 shall be installed on all domestic water branch mains or risers at the connection to the water-service pipe.

Subsection P3003.9.2 is hereby amended by the deletion of the words stricken to read as follows:

P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer ~~, or other approved primer,~~ that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent cement joints shall be installed above or below ground.

Exception: ~~A primer is not required where both of the following conditions apply:~~

- ~~1. The solvent cement used is third party certified as conforming to ASTM D 2564.~~
- ~~2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in nonpressure applications in sizes up to and including 4 inches (102 mm) in diameter.~~

Subsection P3005.1.1 is hereby amended by the deletion of the words stricken to read as follows:

P3005.1.1 Horizontal to vertical (multiple connection fittings). Double fittings such as double sanitary tees and tee-wyes or *approved* multiple connection fittings and back-to-back fixture arrangements that connect two or more branches at the same level shall be permitted as long as directly opposing connections are the same size and the discharge into directly opposing connections is from similar fixture types or fixture groups. Double sanitary tee patterns shall not receive the discharge of back-to-back water closets and fixtures or appliances with pumping action discharge.

Exception: ~~Back-to-back water closet connections to double sanitary tee patterns shall be permitted where the horizontal developed length between the outlet of the water closet and the connection to the double sanitary tee is 18 inches (457 mm) or greater.~~

Table P3201.7 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

**TABLE P3201.7
SIZE OF TRAPS AND TRAP ARMS FOR PLUMBING FIXTURES**

PLUMBING FIXTURE	TRAP SIZE MINIMUM (inches)
Bathtub (with or without shower head and/or whirlpool attachments)	1 ½
Bidet	1 ¼
Clothes washer standpipe	2
Dishwasher (on separate trap)	1 ½
Floor drain	2
Kitchen sink (one or two traps, with or without dishwasher and garbage grinder)	1 ½
Laundry tub (one or more compartments)	1 ½
Lavatory	1 ¼
Shower (based on the total flow rate through showerheads and body sprays) Flow rate: 5.7 gpm and less More than 5.7 gpm up to 12.3 gpm More than 12.3 gpm up to 25.8 gpm More than 25.8 gpm up to 55.6 gpm	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">4 ½ <u>2</u></div> <div style="margin-bottom: 5px;">2</div> <div style="margin-bottom: 5px;">3</div> <div>4</div> </div>

For SI: 1 inch = 25.4 mm, 1 gallon per minute =

Subsection P3302.1 is hereby amended by the addition of the words double-underlined to read as follows:

P3302.1 Subsoil drains. Subsoil drains shall be open-jointed, horizontally split or perforated pipe conforming to one of the standards listed in Table P3302.1. Such drains shall be not less than 4 inches (102 mm) in diameter. Where the building is subject to backwater, the subsoil drain shall be protected by an accessibly located backwater valve. Subsoil drains shall discharge to a trapped area drain, sump, dry well or approved location above ground. Discharge into the sanitary sewer drainage system is prohibited. The subsoil sump shall not be required to have either a gas-tight cover or a vent. The sump and pumping system shall comply with Section P3303.

Subsection E3704.4 is hereby amended by the addition of the words double-underlined to read as follows:

E3704.4 Lighting and general use receptacle load.

A unit load of not less than 3 volt-amperes shall constitute the minimum lighting and general use receptacle load for each square foot of floor area (33 VA for each square meter of floor area). The floor area for each floor shall be calculated from the outside dimensions of the building. The number of general purpose outlets shall not

exceed 8 on a 15-ampere circuit and 10 on a 20-ampere circuit. The calculated floor area shall not include open porches, garages, or unused or unfinished spaces not adaptable for future use. [220.12, Table 220.12, and 220.14(J)]

Subsection E3902.5.1 is hereby added to read as follows:

E3902.5.1 Sump pit receptacle. A GFCI protected receptacle shall be installed within 6 ft. (1828.8 mm) of the bottom of the sump pit

Subsection AK101.1 is hereby amended by the addition of the words double-underlined to read as follows:

AK101.1 General. Wall and floor-ceiling assemblies separating *dwelling units* including those separating adjacent *townhouse units* and separating dwelling units from Group A, B, E, F, H, I, M, R, S and U Occupancies shall provide air-borne sound insulation for walls, and both air-borne and impact sound insulation for floor-ceiling assemblies.

11. Section 10-174 of the Code is hereby repealed and reenacted to read as follows:

Sec. 10-174. International Energy Conservation Code adopted by reference.

The International Residential Code, 2018 edition, published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001, is hereby adopted by this reference and incorporated in this Code as the Energy Conservation Code of the City. The purpose and subject matter of the International Energy Conservation Code includes the design and installation of energy-efficient building envelopes and energy efficient mechanical, lighting and power systems. Except as otherwise provided in this Code, the International Energy Conservation Code, 2018 edition, is adopted in full, including the outline of contents and the index, but excluding all appendix chapters.

12. Section 10-175 of the Code is hereby amended to read as follows:

Sec. 10-175. Amendments to the International Energy Conservation Code.

The International Energy Conservation Code adopted in Section 10-174 is amended as follows: section numbers refer to section numbers of the International Energy Conservation Code:

Subsection C101.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

C101.1 Title. This code shall be known as the *International Energy Conservation Code of the City of Thornton* ~~[NAME OF JURISDICTION]~~ and shall be cited as such. It is referred to herein as "this code."

Chapter 1 Part 2 Commercial Provisions Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Subsection C302.1 Interior design conditions is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

C302.1 Interior design conditions. The interior design temperatures used for heating and cooling load calculations shall be a maximum of 70.72°F (21.22°C) for heating and minimum of 75°F (24°C) for cooling.

Subsection C401.2 Application is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

C401.2 Application. Commercial buildings shall comply with one of the following:

1. The requirements of ANSI/ASHRAE/IESNA 90.1.
2. The requirements of Sections C402 through C405 and C408. ~~In addition, commercial buildings shall comply with Section C406 and tenant spaces shall comply with Section C406.1.1.~~
3. The requirements of Sections C402.5, C403.2, C403.3 though C403.3.2, C403.4 through C403.4.2.3, C403.5.5, C403.7, C403.8.1 through C403.8.4, C403.10.1 through C403.10.3, C403.11, C403.12, C404, C405, C407, and C408. ~~The building energy cost shall be equal to or less than 85 percent of the standard reference design building.~~

Subsection C402.2.6 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

C402.2.6 Insulation of radiant heating systems. Radiant heating system panels, and their associated components that are installed in interior or exterior assemblies shall be insulated with a minimum of R-5 (0.88 m²/K·W) ~~R-3.5 (0.62 m²/K·W)~~ on all surfaces not facing the space being heated. Radiant heating system panels that are installed in the building thermal envelope shall be separated from the exterior of the building or unconditioned or exempt spaces by not less than the R-value of insulation installed in the opaque assembly in which they are installed or the assembly shall comply with Section C402.1.4.

Exception: Heated slabs on grade insulated in accordance with Section C402.2.5.

Subsection R101.1 is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

R101.1 Title. This code shall be known as the *International Energy Conservation Code of the City of Thornton* ~~[NAME OF JURISDICTION]~~, and shall be cited as such. It is referred to herein as “this code.”

Chapter 1 Part 2 Residential Provisions Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Subsection R302.1 Interior design conditions is hereby amended by the deletion of the words stricken and addition of the words double underlined to read as follows:

R302.1 Interior design conditions. The interior design temperatures used for heating and cooling load calculations shall be a maximum of 7072°F (2122°C) for heating and minimum of 75°F (24°C) for cooling.

Subsection R402.3 is hereby amended by the addition of the words double-underlined to read as follows:

R402.3 Fenestration (Prescriptive). In addition to the requirements of Section R402, fenestration shall comply with Sections R402.3.1 through R402.3.5.

Exception: Replacement fenestration not requiring a building permit

Subsections R403.3.3 and R403.3.4 are hereby repealed in their entirety and replaced with the following:

R403.3.3 Duct testing (Mandatory). Ducts shall be pressure tested to determine air leakage by a rough-in test. The total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.

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

A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.

13. Section 10-176 of the Code is hereby amended to read as follows:

Sec. 10-176. International Existing Building Code adopted by reference.

The International Existing Building Code, 2018 edition, is published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001. The purpose and subject matter of the International Existing Building Code includes regulating construction aspects of building and providing greater safety to the public and uniformity in building laws. The International Existing Building Code, 2018 edition, is hereby adopted by this reference and incorporated into this Code as the existing building construction code of the City. Except as otherwise provided in Section 10-178, the International Existing Building Code, 2012 edition, is adopted in full including the outline of contents and the index, but excluding all appendix chapters.

14. Section 10-177 of the Code is hereby amended to read as follows:

Sec. 10-177. Amendments to the International Existing Building Code.

The International Existing Building Code adopted in Section 10-176 is amended as follows; section numbers refer to section numbers of the International Existing Building Code:

Subsection 101.1 is hereby amended by the deletion of the words stricken and by the addition of the words double-underlined to read as follows:

[A] 101.1 Title. These regulations shall be known as the *Existing Building Code* of ~~[NAME OF JURISDICTION]~~ the City of Thornton the City of Thornton, hereinafter referred to as “this code.”

Subsection 101.2 is hereby amended by the addition of the words double-underlined to read as follows:

[A] 101.2 Scope. The provisions of the *International Existing Building Code* shall apply to the *repair, alteration, change of occupancy, addition and relocation of existing buildings*. The relocation of existing buildings shall also comply with City Code Section 18-458.

Chapter 1 Part 2 Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Section 202 General Definitions is hereby amended by the addition of the words double-underlined to read as follows:

COLD WEATHER CARE HOUSING. Places of religious worship within the City that allow the temporary housing of homeless persons during the months of October through March.

[B] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below or meets the definition of dangerous as stated in the Uniform Code for the Abatement of Dangerous Buildings shall be deemed *dangerous*:

1. The building or structure has collapsed, partially collapsed, moved off its foundation or lacks the support of ground necessary to support it.
2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the building or structure under service loads.

Section 301.1.5 is hereby added to read as follows:

301.1.5 Carbon monoxide alarms. Regardless of compliance method all dwelling units that undergo a repair, alteration, change of occupancy, addition or relocation shall be required to install carbon monoxide alarms in accordance with the provisions of either the International Building Code or the International Residential Code.

Section 705 is hereby repealed in its entirety. Refer to Section 1511 of the *International Building Code*.

Section 803.4.1 is hereby amended by the deletion of the words stricken.

803.4.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 803.4.1.1 through 803.4.1.6. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the *work area* shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

803.4.1.1 Group E. A fire alarm system shall be installed in *work areas* of Group E occupancies as required by the *International Fire Code*. ~~for existing Group E occupancies.~~

803.4.1.2 Group I-1. A fire alarm system shall be installed in *work areas* of Group I-1 residential care/assisted living facilities as required by the *International Fire Code*. ~~for existing Group I-1 occupancies.~~

803.4.1.3 Group I-2. A fire alarm system shall be installed in *work areas* of Group I-2 occupancies as required by the *International Fire Code*. ~~for existing Group I-2 occupancies.~~

803.4.1.4 Group I-3. A fire alarm system shall be installed in *work areas* of Group I-3 occupancies as required by the *International Fire Code*. ~~for existing Group I-3 occupancies.~~

803.4.1.5 Group R-1. A fire alarm system shall be installed in Group R-1 occupancies as required by the *International Fire Code*. ~~for existing Group R-1 occupancies.~~

803.4.1.6 Group R-2. A fire alarm system shall be installed in *work areas* of Group R-2 apartment buildings as required by the *International Fire Code*. ~~for existing Group R-2 occupancies.~~

803.4.1.7 Group R-4. A fire alarm system shall be installed in *work areas* of Group R-4 residential care/assisted living facilities as required by the *International Fire Code*. ~~for existing Group R-4 occupancies.~~

Subsection 1012.2.1 is hereby amended by the addition of the words double-underlined to read as follows:

1011.2.1 Fire sprinkler system. Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code, such system shall be provided throughout the area where the change of occupancy occurs.

Exception: Group A-3 places of religious worship participating in the Cold Weather Care Housing, as defined in Chapter 2, in which the aggregate sleeping areas are less than ten

percent (10%) of the building area for each story that is used as an aggregate sleeping area.

15. Section 10-179 of the Code is hereby amended to read as follows:

Sec. 10-179. – International Swimming Pool and Spa Code adopted by reference.

The International Swimming Pool and Spa Code, 2018 edition, is published by the International Code Council, Inc. 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001. The purpose and subject matter of the International Swimming Pool and Spa Code includes regulating construction aspects of building and providing greater safety to the public and uniformity in building laws. The International Swimming Pool and Spa Code, 2018 edition, is hereby adopted by this reference and incorporated into this Code as the Swimming Pool and Spa Construction Code of the City. Except as otherwise provided in Section 10-180, the International Swimming Pool and Spa Code is adopted in full, including outline of contents and index, but excluding all appendix chapters.

16. Section 10-180 of the Code is hereby amended to read as follows:

Sec. 10-180. - Amendments to International Swimming Pool and Spa Code.

The International Swimming Pool and Spa Code adopted in Section 10-179 is hereby amended with section numbers referring to section numbers of the International Swimming Pool and Spa Code, to read as follows:

Subsection 101.1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

101.1 Title. These regulations shall be known as the *International Swimming Pool and Spa Code* of the City of Thornton~~[NAME OF JURISDICTION]~~, hereinafter referred to as “this code.”

Chapter 1 Part 2-Administration and Enforcement is hereby repealed in its entirety. Please refer to Thornton City Code Chapter 10 Article II.

Subsection 202 Definitions Residential Swimming Pool is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

Residential Swimming Pool (Residential Pool). A pool intended for use that is accessory to a ~~residential setting~~ One and Two Family Dwelling and available only to the household and its guests. Other pools shall be considered to be *public pools* for purposes of this code.

Types I – V. Residential pools suitable for the installation of diving equipment by type.

Type O. A nondiving residential pool.

Subsection 202 Definitions PublicSwimming Pool(Public Pool) Class C, Semi-public Pool is hereby amended by the addition of the words double-underlined to read as follows:

Public Swimming Pool (Public Pool). A pool, other than a residential pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use. Public pools shall be further classified and defined as follows:

CLASS C, SEMI-PUBLIC POOL. A pool operated solely for and in conjunction with lodgings such as hotels, motels, apartments, townhomes, or condominiums

Subsection 305.1 General is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

305.1 General. The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools, hot tubs, and spas. Where residential spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and ~~swimming pools are equipped with a powered safety cover that complies with ASTM F 1346~~, the areas where those spas, or hot tubs ~~or pools~~ are located shall not be required to comply with Section 305.2 through 305.7.

Subsection 305.2.1 Barrier height and clearances Item 1 is hereby amended by the deletion of the words stricken and the addition of the words double-underlined to read as follows:

305.2.1 Barrier height and clearances.

1. The top of the *barrier* shall be not less than 4872 inches (12491829 mm) above grade where measured on the side of the *barrier* that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) where measured horizontally from the required *barrier*. Residential swimming pools with a powered safety cover that complies with ASTM F 1346 may have a barrier 60 inches (1524 mm) in height.

Subsection 320.1 Backwash water or draining water is hereby amended by the deletion of the words stricken to read as follows:

320.1 Backwash water or draining water. Backwash water or draining water shall be discharged to the sanitary ~~or storm~~ sewer, or into an *approved* disposal system on the premise, or shall be disposed of by other means approved by the ~~state or~~ local authority. Direct connections shall not be made between the end of the backwash line and the disposal system. Drains shall discharge through an air gap.

Subsection 321.2 Artificial lighting required is hereby amended by the deletion of the words stricken to read as follows:

321.2 Artificial lighting required. ~~When a pool is open during periods of low natural illumination, a~~ Artificial lighting shall be provided so that all areas of the pool, including suction

outlets on the bottom of the pool, will be visible. Illumination shall be sufficient to enable a lifeguard or other persons standing on the deck or sitting on a lifeguard stand adjacent to the pool edge to determine if a pool user is lying on the bottom of the pool and that the pool water is transparent and free from cloudiness.

These two conditions shall be met when all suction outlets are visible from the edge of the deck at all times when artificial lighting is illuminated and when an 8-inch-diameter (152 mm) black disk, placed at the bottom of the pool in the deepest point, is visible from the edge of the pool deck at all times when artificial lighting is illuminated.

Subsection 321.3 Emergency Illumination is hereby amended by the deletion of the words stricken to read as follows:

321.3 Emergency illumination. *Public pools* and public pool areas ~~that operate during periods of low illumination~~ shall be provided with emergency lighting that will automatically turn on to permit evacuation of the pool and securing of the area in the event of power failure. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than 0.1 foot-candle (0.1 lumen per square foot) [11 lux]. At the end of the emergency lighting time duration, the illumination level shall be not less than 0.06 foot-candle (0.06 lumen per square foot) [6.46 lux] measured at any point on the water surface and at any point on the walking surface of the deck, and not less than an average of 0.06 foot-candle (0.06 lumen per square foot) [6.46 lux]. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.