

AN ORDINANCE TO AMEND CHAPTER 15.26 OF THE RAPID CITY MUNICIPAL CODE TO ADOPT THE 2018 INTERNATIONAL MECHANICAL CODE

WHEREAS, in Chapter 15.26 of the Rapid City Municipal Code, the City of Rapid City has adopted the 2012 edition of the International Mechanical Code; and

WHEREAS, the City wishes to amend R.C.M.C. Chapter 15.26 to adopt the 2018 edition of the International Mechanical Code and to include additional requirements and local changes to some provisions within the Code; and

WHEREAS, the Common Council desires to amend R.C.M.C. Chapter 15.26 to adopt the 2018 edition of the International Mechanical Code and to incorporate some of the additional requirements and local changes that the City had applied to the previous edition of the International Mechanical Code.

NOW THEREFORE, BE IT ORDAINED by the City of Rapid City, that Chapter 15.26 of the Rapid City Municipal Code is hereby amended to read in its entirety as follows:

CHAPTER 15.26: MECHANICAL CODE

Section

- 15.26.010 Adoption.
- 15.26.020 IMC Chapter 1, Section [A] 101.1, Title–Amended.
- 15.26.030 IMC Chapter 1–Scope and Administration–Deleted in part.
- 15.26.040 IMC Chapter 1, Section [A] 101.2 Scope–Amended.
- 15.26.050 IMC Chapter 1, Section [A] 102.8 Referenced codes and standards–Amended.
- ~~15.26.060 IMC Chapter 1, Section [A] 102.8.1 Conflicts–Amended.~~
- ~~15.26.070 IMC Chapter 1, Section [A] 102.8.2 Provisions in referenced codes and standards–Amended.~~
- 15.26.0860 IMC Chapter 1, Section 103 Department of Mechanical Inspection–Amended.
- 15.26.0970 Homeowner permits.
- 15.26.1080 Mechanical licenses.
- 15.26.11090 IMC Chapter 2, Section 201.3 Terms defined in other codes–Amended.
- 15.26.1200 IMC Chapter 3, Section 301.2 Energy utilization–Deleted.
- 15.26.1310 IMC Chapter 3, Section 301.6 Fuel gas appliances and equipment–Amended.
- 15.26.1420 IMC Chapter 3, Section 301.10 Electrical–Amended.
- 15.26.1530 IMC Chapter 3, Section 301.11 Plumbing connections–Amended.
- 15.26.1640 IMC Chapter 3, Section [BS] 301.136 Flood hazard–Amended.
- 15.26.1750 IMC Chapter 3, Section 303.3 Prohibited locations–Amended.
- 15.26.1860 IMC Chapter 3, Section 306.5 Equipment and appliances on roofs or elevated structures–Amended.
- 15.26.170 Guards.
- 15.26.180 IMC Chapter 3, Section 307.2.2 Drain pipe materials and sizes–Amended.
- 15.26.190 IMC Chapter 3, Section 312.1 Load calculations–Amended.

~~15.26.19200~~ IMC Chapter 4, Section 401.2 Ventilation required–Amended.
~~15.26.2010~~ IMC Chapter 4, Section 401.4 Intake opening location–Amended.
~~15.26.210~~ IMC Chapter 4, Section 403.3 Outdoor airflow rate–Amended.
15.26.220 IMC Chapter 4, Section 403.3.1.1.2.3.5 Referenced standard alternative–Added.
15.26.230 IMC Chapter 5, Section 504.8.2 Duct installation–Amended.
~~15.26.2240~~ IMC Chapter 5, Section 507.2.4 Type I hoods–Amended.
~~15.26.2350~~ IMC Chapter 5, Section 508.1.1 Makeup air temperature–Amended.
~~15.26.2460~~ IMC Chapter 5, Section 512.2 Materials–Amended.
~~15.26.2570~~ IMC Chapter 6, Section [BS] 602.4 Flood hazard–Amended.
~~15.26.2680~~ IMC Chapter 6, Section 603.6.1.1 Duct length–Amended.
~~15.26.2790~~ IMC Chapter 6, Section 603.6.2.1 Connector length–Amended.
~~15.26.28300~~ IMC Chapter 6, Section [BS] 603.13 Flood hazard areas–Amended.
~~15.26.290~~ IMC Chapter 6, Section 604.1 General–Amended.
~~15.26.3010~~ IMC Chapter 6, Section 606.2.1 Return air systems–Amended.
15.26.320 IMC Chapter 6, Section 603.8.2 Sealing–Amended.
15.26.330 IMC Chapter 6, Section 604.1 General–Amended.
~~15.26.3140~~ IMC Chapter 9, Section 901.1 Scope–Amended.
~~15.26.3250~~ IMC Chapter 9, Section 903.3 Unvented gas log heaters–Deleted.
~~15.26.3360~~ IMC Chapter 9, Section 906.1 General–Amended.
~~15.26.3470~~ IMC Chapter 9, Section 908.5 Water supply–Amended.
~~15.26.3580~~ IMC Chapter 10, Section 1002.1 General–Amended.
~~15.26.3690~~ IMC Chapter 10, Section 1002.2 Water heaters utilized for space heating–Amended.
~~15.26.37400~~ IMC Chapter 10, Section 1002.3 Supplemental water-heating devices–Amended.
~~15.26.38410~~ IMC Chapter 10, Section 1005.2 Potable water supply–Amended.
~~15.26.39420~~ IMC Chapter 10, Section 1006.6 Safety and relief valve discharge–Amended.
~~15.26.4030~~ IMC Chapter 10, Section 1008.2 Discharge–Amended.
~~15.26.4140~~ IMC Chapter 10, Section 1009.3 Open-type expansion tanks–Amended.
15.26.450 IMC Chapter 10, Section 1011 Tests–Deleted.
~~15.26.4260~~ IMC Chapter 11, Section 1101.4 Water connection–Amended.
~~15.26.4370~~ IMC Chapter 11, Section 1101.5 Fuel gas connection–Amended.
15.26.480 IMC Chapter 11, Section 1101.10 Locking access port caps–Deleted.
15.26.490 IMC Chapter 11, Section 1102.3 Access port protection–Deleted.
~~15.26.44500~~ IMC Chapter 12, Section 1201.1 Scope–Amended.
~~15.26.4510~~ IMC Chapter 12, Section 1206.2 System drain down–Amended.
~~15.26.46520~~ IMC Chapter 12, Section 1206.3 Protection of potable water–Amended.
~~15.26.47530~~ IMC Chapter 12, Section 1206.9.1 Flood hazard–Amended.
~~15.26.48540~~ IMC Chapter 13, Section 1305.2.1 Flood hazard–Amended.
~~15.26.49550~~ IMC Chapter 14, Section 1401.2 Potable water supply–Amended.

15.26.010 Adoption.

There is adopted by the City of Rapid City, for the purpose of regulating the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of heating, ventilation, cooling, incinerators or other miscellaneous heat producing appliances, that certain code known as the International Mechanical Code, published by the International Code Council, Inc., specifically the 2012~~8~~

edition thereof, including Appendix A, but not Appendix B, providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, conditions and terms of such International Mechanical Code, 2012~~8~~ edition, published by the International Code Council, Inc. A copy of said Code is on file in the office of the City Building Official.

15.26.020 IMC Chapter 1, Section [A] 101.1, Title–Amended.

IMC Chapter 1, Section [A] 101.1 Title is hereby amended to read in its entirety as follows:

[A] 101.1 Title. These regulations shall be known as the Mechanical Code of the City of Rapid City, hereinafter referred to as “this code.”

15.26.030 IMC Chapter 1–Scope and Administration–Deleted in part.

The following sections of IMC Chapter 1 are hereby deleted and replaced with comparable provisions found in Chapter 15.04 Administration of the Rapid City Municipal Code.

Section 104 Duties and Powers of the Code Official
Section 105 Approval
Section 106 Permits
Section 108 Violations
Section 109 Means of Appeal

Any reference in the entirety of the International Mechanical Code to the above sections is hereby deleted and replaced with comparable provisions found in Chapter 15.04 Administration of the Rapid City Municipal Code.

15.26.040 IMC Chapter 1, Section [A] 101.2 Scope–Amended.

IMC Chapter 1, Section [A] 101.2 Scope is hereby amended to read in its entirety as follows:

[A] 101.2 Scope. This code shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings. This code shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed herein. The installation of fuel gas distribution piping and equipment shall be regulated by the Rapid City Gas Code; fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the International Fuel Gas Code as adopted by the City of Rapid City.

15.26.050 IMC Chapter 1, Section [A] 102.8 Referenced codes and standards–Amended.

IMC Chapter 1, Section [A] 102.8 Referenced codes and standards is hereby amended to read in its entirety as follows:

[A] 102.8 Referenced codes and standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.8.1 and 102.8.2. Pursuant to R.C.M.C. 15.04.080, the Building Official may grant modifications to these code provisions in certain circumstances.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and the manufacturer's installation instructions shall apply.

[A] 102.8.1 Conflicts. Where conflicts occur between provisions of this code and the referenced standards, the provisions of this code shall apply. The Building Official may grant modifications to these code provisions in certain circumstances as permitted within R.C.M.C. Chapter 15.04.

[A] 102.8.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code and standard. Pursuant to R.C.M.C. 15.04.080, the Building Official may grant modifications to these code provisions in certain circumstances.

~~15.26.060 IMC Chapter 1, Section [A] 102.8.1 Conflicts Amended.~~

~~—IMC Chapter 1, Section [A] 102.8.1 Conflicts is hereby amended to read in its entirety as follows:~~

~~—[A] 102.8.1 Conflicts. Where conflicts occur between provisions of this code and the referenced standards, the provisions of this code shall apply. The Building Official may grant modifications to these code provisions in certain circumstances as permitted within R.C.M.C. Chapter 15.04.~~

~~15.26.070 IMC Chapter 1, Section [A] 102.8.2 Provisions in referenced codes and standards Amended.~~

~~—IMC Chapter 1, Section [A] 102.8.2 Provisions in referenced codes and standards is hereby amended to read in its entirety as follows:~~

~~—[A] 102.8.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code and standard. Pursuant to R.C.M.C. 15.04.080, the Building Official may grant modifications to these code provisions in certain circumstances.~~

~~15.26.0860 IMC Chapter 1, Section 103 Department of Mechanical Inspection Amended.~~

IMC Chapter 1, Section 103 Department of Mechanical Inspection is hereby amended to read in its entirety as follows:

103.1 General. Building Services is hereby created and the executive official in charge thereof shall be known as the Building Official.

103.2 Appointment. The Building Official shall be appointed by the Director of ~~the~~ Community ~~Planning and Development Services~~, to serve at the pleasure of said Director.

103.3 Deputies. In accordance with the prescribed procedures of the City of Rapid City and with the concurrence of the Director of ~~the~~ Community ~~Planning and Development Services~~, the Building Official shall have the authority to appoint a deputy Building Official, other related technical officers, inspectors and other employees.

103.4 Liability. The Building Official, officer or employee charged with the enforcement of this code, while acting for the City of Rapid City, shall not thereby be rendered liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act required or permitted in the discharge of official duties.

15.26.0970 Homeowner permits.

A. A homeowner may design, install and maintain mechanical systems in the following structures only:

1. In a residence when he or she owns and occupies both the structure and the real property;
2. In an accessory structure when he or she owns both the structure and the real property and occupies the main structure on the property; and
3. In a mobile home when he or she owns and occupies the structure.

B. All mechanical systems installed pursuant to this section shall be installed only by the owner, without compensation or pay to any other person for such labor or installation. Such installation shall comply with the requirements of this Code. The homeowner shall file plans, demonstrate to the satisfaction of the City of Rapid City that he or she possesses sufficient knowledge of code requirements and the ability to make such installation properly; apply for and secure a permit; pay the required permit fees; and call for all inspections in the manner provided in this code.

C. Homeowner permits under this section shall be valid for a period of six months from the date of the last inspection.

15.26.1080 Mechanical licenses.

A. Mechanical Contractor. It shall be unlawful for any person or persons representing or operating under the auspices of a proprietorship, partnership, firm, or corporation to conduct,

carry on, or engage in the business of mechanical work or act in the capacity of a mechanical contractor, without first being approved by the Building Official, and having had issued to them a valid mechanical contractor's license pursuant to Chapter 15.04.

1. Mechanical Contractor means a proprietorship, partnership, firm, or corporation, who for compensation undertakes or offers to undertake mechanical contracting. As a proprietorship, partnership, firm, or corporation, the owner shall be qualified in the mechanical trade as a mechanical contractor, or have employed as a supervisor a person with said qualifications and license. The mechanical contractor's license shall be issued in the name of an individual, DBA (Doing Business As) company name. The individual licensed as a contractor under a proprietorship, partnership, firm, or corporation, shall have six years verifiable experience, via completion of the work record portion of the mechanical license application, and be qualified in planning, superintending, and the practical installation of mechanical system. A completed 18-24 month mechanical educational program will count as 1 year of experience and a completed 9-12 month mechanical educational program will count as 1/2 year experience.

2. Mechanical Contracting means the enlargement, alteration, improvement, conversion, or installation of mechanical systems; including the planning, superintending and the practical installation; and being familiar with the laws, rules and regulations governing the same.

3. If the person holding the contractor's license for a business leaves that business, that existing business will have 30 days to obtain another contractor's license under another person.

B. Mechanical Installer. It shall be unlawful for any person to labor at the trade or in the capacity of a mechanical installer without first being approved by the Building Official and having had issued to him or her a valid mechanical installer's license pursuant to Chapter 15.04. It shall also be unlawful for any person to labor at the trade or in the capacity of a mechanical installer if s/he is not engaged as an employee of, or otherwise working under the direction of, a mechanical contractor. In order to be licensed as a mechanical installer, a person must have four years verifiable experience, via completion of the work record portion of the mechanical license application, in the installation of mechanical equipment. A completed 18-24 month mechanical educational program will count as 1 year of experience and a completed 9-12 month mechanical educational program will count as 1/2 year experience. A person who is licensed as a mechanical contractor is not required to obtain a mechanical installer's license in order to labor at the trade or in the capacity of a mechanical installer.

1. Mechanical Installer means ~~any person with four years verifiable experience, via completion of the work record portion of the mechanical license application, in the installation of mechanical equipment, who as his principal occupation, is engaged as an employee of, or otherwise working under, the direction of a mechanical contractor, and who is lawfully qualified and licensed as a mechanical installer pursuant to the provisions of this chapter who installs, lays out, alters or repairs mechanical or HVAC systems in all buildings and structures. A completed 18-24 month mechanical educational program will count as 1 year of experience and a completed 9-12 month mechanical educational program will count as 1/2 year experience.~~

C. Mechanical Apprentice. It shall be unlawful for any person to labor at the trade or in the capacity of a mechanical apprentice without first being approved by the Building Official and having had issued to him a valid mechanical apprentice license pursuant to Chapter 15.04.

1. Mechanical apprentice means any person other than a mechanical installer who is engaged in working as an employee of a mechanical contractor under the immediate and personal supervision of a mechanical installer, learning and assisting in the installation of mechanical systems. No apprentice shall be in charge of any phase of work.

D. Appliance Specialist. It shall be unlawful for any person to labor at the trade or in the capacity of an appliance specialist without first being approved the Rapid City Building Official and having had issued to him a valid appliance specialist license pursuant to Chapter 15.04.

1. Appliance Specialist means any person other than a mechanical contractor, installer, or apprentice who is engaged only in the installation of listed and labeled gas burning hearth appliances and their venting systems, listed and labeled solid fuel fireplaces and cord wood burning appliances and their venting systems, and listed and labeled wood pellet and biomass burning appliances and their venting systems.

E. Any licensed Rapid City Plumbing Contractor or their licensed employees can install piping or tubing for a Hydronic or Refrigeration System following the requirements of Chapters 11 and 12 of the International Mechanical Code, 2012~~8~~ edition as adopted by the City of Rapid City; and Boilers following the requirements of Chapter 10 of the International Mechanical Code, 2012~~8~~ edition as adopted by the City of Rapid City.

15.26.11090 IMC Chapter 2, Section 201.3 Terms defined in other codes–Amended.

IMC Chapter 2, Section 201.3 Terms defined in other codes is hereby amended to read in its entirety as follows:

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code, the current Electrical Code adopted by the city of Rapid City, International Fire Code, International Fuel Gas Code – Chapters 2, 3, 5, 6, 7, 8, and appendix B, the Rapid City Gas Code, or the current Plumbing Code adopted by the City of Rapid City, such terms shall have meanings ascribed to them as in those codes as adopted by the City of Rapid City.

15.26.1200 IMC Chapter 3, Section 301.2 Energy utilization–Deleted.

IMC Chapter 3, Section 301.2 Energy utilization, is hereby deleted in its entirety.

15.26.1310 IMC Chapter 3, Section 301.6 Fuel gas appliances and equipment–Amended.

IMC Chapter 3, Section 301.6 Fuel gas appliance and equipment is hereby amended to read in its entirety as follows:

301.6 Fuel gas appliances and equipment. The approval and installation of fuel gas distribution piping and equipment shall be in accordance with the Rapid City Gas Code; fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be in accordance with the International Fuel Gas Code as adopted by the City of Rapid City.

15.26.1420 IMC Chapter 3, Section 301.10 Electrical–Amended.

IMC Chapter 3, Section 301.10 Electrical is hereby amended to read in its entirety as follows:

301.10 Electrical. Electrical wiring controls and connections to equipment and appliances regulated by this code shall be in accordance with the current Electrical Code adopted by the City of Rapid City.

15.26.1530 IMC Chapter 3, Section 301.11 Plumbing connections–Amended.

IMC Chapter 3, Section 301.11 Plumbing connections is hereby amended to read in its entirety as follows:

301.11 Plumbing connections. Potable water supply and building drainage system connections to equipment and appliances regulated by this code shall be in accordance with the current Plumbing Code adopted by the City of Rapid City.

15.26.1640 IMC Chapter 3, Section [BS] 301.16 Flood hazard–Amended.

IMC Chapter 3, Section [BS] 301.16 Flood hazard is hereby amended to read in its entirety as follows:

[BS] 301.16 Flood hazard. See Chapter 15.32, Flood Area Construction Regulations, of the Rapid City Municipal Code.

15.26.1750 IMC Chapter 3, Section 303.3 Prohibited locations–Amended.

IMC Chapter 3, Section 303.3 Prohibited locations is hereby amended to read in its entirety as follows:

303.3 Prohibited locations. Fuel-fired appliances shall not be located in, or obtain combustion air from, any of the following rooms or spaces:

1. Sleeping rooms.
2. Bathrooms.
3. Toilet rooms.
4. Storage closets.

5. Surgical rooms.
6. Unvented appliances of all types shall be prohibited in all occupancies other than Group U unattached accessory structures.

Exception: This section shall not apply to the following appliances:

1. Direct-vent appliances that obtain all combustion air directly from the outdoors.
2. Solid fuel-fired appliances provided that the room is not a confined space and the building is not of unusually tight construction.
3. Appliances installed in an enclosure in which all combustion air is taken from sources other than a bedroom or bathroom. Access to such enclosure shall be through a solid, weather-stripped door, equipped with an approved self-closing device.
4. Unvented appliances may be used during the time of initial construction of the structure.

15.26.1860 IMC Chapter 3, Section 306.5 Equipment and appliances on roofs or elevated structures—Amended.

IMC Chapter 3, Section 306.5 Equipment and appliances on roofs and structures is hereby amended to read in its entirety as follows:

306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure on the roof of a building such that personnel will have to climb higher than 12 feet above grade to access such equipment or appliances, an interior or exterior means of access shall be provided. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) in height or walking on roofs having a slope greater than 46 units vertical in 12 units horizontal (~~33 percent slope~~). Such access shall not require the use of portable ladders. Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall.

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center. The uppermost rung shall be a maximum of 24 inches (610 mm) below the upper edge of the roof hatch, roof or parapet, as applicable.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457) mm between rails.

5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.

6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot (488.2 kg/m²). Landing dimensions shall be not less than 18 inches (457 mm) and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.

7. Climbing clearance. The distance from the centerline of the rungs to the nearest permanent object on the climbing side of the ladder shall be a minimum of 30 inches (762 mm) measured perpendicular to the rungs. This distance shall be maintained from the point of ladder access to the bottom of the roof hatch. A minimum clear width of 15-inches (381 mm) shall be provided on both sides of the ladder measured from the midpoint of and parallel with the rungs except where cages or wells are installed.

8. Landing required. The ladder shall be provided with a clear and unobstructed bottom landing area having a minimum dimension of 30 inches (762 mm) by 30 inches (762 mm) centered in front of the ladder.

9. Ladders shall be protected against corrosion by approved means.

10. Access to ladders shall be provided at all times.

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to Group R-3 occupancies.

306.5.1 Sloped roofs. Where appliances, equipment, fans or other components that require service are installed on a roof having a slope of six units vertical in 12 units horizontal or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the appliance or equipment to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the International Building Code as adopted by the City of Rapid City. Access shall not require walking on roofs having a slope greater than 6 units vertical in 12 units horizontal. Where access involves obstructions greater than 30 inches (762 mm) in height, such obstructions shall be provided with ladders installed in accordance with Section 306.5 or stairways installed in accordance with the requirements specified in the International Building code in the path of travel to and from appliances, fans or equipment requiring service.

306.5.2 Electrical requirements. A receptacle outlet shall be provided at or near the equipment location in accordance with NFPA 70.

15.26.170 Guards.

Guards shall be provided where various components that require service and roof hatch openings are located within 10 feet (3048 mm) of a roof edge or open side of walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of components that require service. The top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the International Building Code as adopted by the City of Rapid City.

Exception: Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire lifetime of the roof covering. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces.

15.26.180 IMC Chapter 3, Section 307.2.2 Drain pipe materials and sizes–Amended.

IMC Chapter 3, Section 307.2.2 Drain pipe materials and sizes is hereby amended to read in its entirety as follows:

307.2.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, copper alloy, cross-linked polyethylene, polyethylene, ABS, CPVC, PVC, or polypropylene pipe or tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of the current Plumbing Code adopted by the City of Rapid City relative to the material type. Condensate waste and drain line size shall be not less than 3/4-inch internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2.

TABLE 307.2.2
CONDENSATE DRAIN SIZING

<u>EQUIPMENT CAPACITY</u>	<u>MINIMUM CONDENSATE PIPE DIAMETER</u>
<u>Up to 20 tons of refrigeration</u>	<u>3/4 inch</u>
<u>Over 20 tons to 40 tons of refrigeration</u>	<u>1 inch</u>
<u>Over 40 tons to 90 tons of refrigeration</u>	<u>1 1/4 inch</u>
<u>Over 90 tons to 125 tons of refrigeration</u>	<u>1 1/2 inch</u>

Over 125 tons to 250 tons of refrigeration	2 inch
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1 inch = 25.4 mm, 1 ton = 3.517 kW.

15.26.190 IMC Chapter 3, Section 312.1 Load calculations–Amended.

IMC Chapter 3, Section 312.1 Load calculations is hereby amended to read in its entirety as follows:

312.1 Load calculations. Heating and cooling system design loads for the purpose of sizing systems, appliances and equipment shall be determined in accordance with the procedures described in the ASHRAE/ACCA Standard 183. Alternatively, design loads shall be determined by an approved equivalent computation procedure, using the design parameters specified in Chapter 3 [CE] of the International Energy Conservation Code or in compliance with nationally recognized standards.

15.26.19200 IMC Chapter 4, Section 401.2 Ventilation required–Amended.

IMC Chapter 4, Section 401.2 Ventilation required is hereby amended to read in its entirety as follows:

401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403 or in compliance with nationally recognized standards. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

15.26.2010 IMC Chapter 4, Section 401.4 Intake opening location–Amended.

IMC Chapter 4, Section 401.4. Intake opening location is hereby amended to read in its entirety as follows:

401.4 Intake opening location. Air intake openings shall comply with all of the following:

1. Intake openings shall be located not less than required setbacks stated in the Rapid City Municipal Code Title 15 and Title 17 and within fire separation distance where openings are prohibited by the adopted International Building Code, as adopted in R.C.M.C. Chapter 15.12 and International Residential Code, as adopted in R.C.M.C. Chapter 15.13.

2. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet (3048 mm) horizontally from any hazardous or noxious containment source, such as vents, streets, alleys, parking lots and loading docks, except as specified in Item 3 or Section 501.2.1. Outdoor air intake openings shall be permitted to be less than 10 feet (3048 mm) horizontally from streets, alleys, parking lots and loading docks provided that the openings are located not less than 25 feet (7620 mm) vertically above such locations. Where openings front on a street or public way, the distance shall be measured from the closest edge of the street or public way.

3. Intake openings shall be located not less than 3 feet (914 mm) below containment sources where such sources are located within 10 feet (3048 mm) of the opening.

4. Intake openings on structures in flood hazard areas shall be at or above the elevation required by Chapter 15.32, Flood Area Construction Regulations, of the Rapid City Municipal Code.

15.26.210 IMC Chapter 4, Section 403.3 Outdoor airflow rate Amended.

~~—IMC Chapter 4, Section 403.3 Outdoor airflow rate is hereby amended to read in its entirety as follows:~~

~~—**403.3 Outdoor airflow rate.** Ventilation systems shall be designed to have the capacity to supply the minimum outdoor air flow rate determined in accordance with Table 403.3 or in compliance with nationally recognized standards, based on the occupancy of the space and the occupant load or other parameter as stated therein. The occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 403.3. Ventilation rates for occupancies not represented in Table 403.3 shall be determined by an approved engineering analysis. The ventilation system shall be designed to supply the required rate of ventilation air continuously during the period the building is occupied, except as otherwise stated in other provisions of the code.~~

~~—**Exception:** The occupant load is not required to be determined, based on the estimated maximum occupant load rate indicated in Table 403.3 where approved statistical data document the accuracy of an alternate anticipated occupant density.~~

15.26.220 IMC Chapter 4, Section 403.3.1.1.2.3.5 Referenced standard alternative Added.

IMC Chapter 4, Section 403.3.1.1.2.3.5 Referenced standard alternative is hereby amended to read in its entirety as follows:

403.3.1.1.2.3.5 Referenced Standard Alternative. Mechanical ventilation that is in compliance with a Referenced Standard as listed in Chapter 15 of this code may be utilized in lieu of compliance with mechanical ventilation as required in Table 403.3.1.1.

15.26.230 IMC Chapter 5, Section 504.8.2 Duct installation Amended.

IMC Chapter 5, Section 504.8.2 Duct installation is hereby amended to read in its entirety as follows:

504.8.2 Duct installation. Exhaust ducts shall be supported at 4-foot (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

15.26.2240 IMC Chapter 5, Section 507.2.1 Type I hoods Amended.

IMC Chapter 5, Section 507.2-1 Type I hoods is hereby amended to read in its entirety as follows:

507.2-1 Type I hoods. Type I hoods shall be installed where commercial cooking appliances produce grease or smoke, such as occurs with griddles, fryers, broilers, ovens, ranges and wok ranges.

Exceptions:

1. Residential ranges installed within dwelling units are exempt from these requirements.
2. A type II hood may be used over a single residential style 4 surface burner electric or gas range in churches, schools, and break rooms in group B, E, F, I, S, R-1 and R-2 occupancies.

The installation must meet the following requirements for a fire sprinkled building:

- A. Only one residential range per building floor.
- B. Type II hood installed over the range shall be vented to the outside.
- C. In a group I or E occupancy, the range shall have a lockable disconnecting means within sight of the range.
- D. 2A 10 BC fire extinguisher installed within 10-10 ten feet from the range.

The installation must meet the following requirements for a non fire sprinkled building:

- A. Only one residential range per building floor.
- B. Type II hood installed over the range shall be vented to the outside.
- C. A fire suppression system that is listed to the UL 300A standard for Extinguishing System Units for Residential Range Top Cooking Surfaces must be installed to protect the residential range unless an approved high end heat limiting technology range or range top is utilized. The fire suppression system must include an automatic means of turning off the gas or electric upon fire suppression system activation, which ever is appropriate to the type of range being used.
- D. In a group I or E occupancy, the range shall have a lockable disconnecting means within sight of the range.
- E. 2A 10 BC fire extinguisher installed within 10' feet from the range.

15.26.2350 IMC Chapter 5, Section 508.1.1 Makeup air temperature—Amended.

IMC Chapter 5, Section 508.1.1 Makeup air temperature is hereby amended to read in its entirety as follows:

508.1.1 Makeup air temperature. The temperature of dedicated makeup air shall be capable of providing 60 degree minimum air to the kitchen area year around.

Exceptions:

1. Makeup air that is part of the air-conditioning system.
2. Makeup air shall not decrease the comfort conditions of other occupied spaces in the building.

15.26.2460 IMC Chapter 5, Section 512.2 Materials–Amended.

IMC Chapter 5, Section 512.2 Materials is hereby amended to read in its entirety as follows:

512.2 Materials. Subslab soil exhaust system duct material shall be air duct material listed and labeled to the requirements of UL 181 for Class 0 air ducts, or any of the following piping materials that comply with the current Plumbing Code adopted by the City of Rapid City as building sanitary drainage and vent pipe: cast iron; galvanized steel; brass or copper pipe; copper tube of a weight not less than that of copper drainage tube, Type DWV; and plastic piping.

15.26.2570 IMC Chapter 6, Section [BS] 602.4 Flood hazard–Amended.

IMC Chapter 6, Section [BS] 602.4 Flood hazard is hereby amended to read in its entirety as follows:

[BS] 602.4 Flood hazard. See Chapter 15.32, Flood Area Construction Regulations, of the Rapid City Municipal Code.

15.26.2680 IMC Chapter 6, Section 603.6.1.1 Duct length–Amended.

IMC Chapter 6, Section 603.6.1.1 Duct length is hereby amended to read in its entirety as follows:

603.6.1.1 Duct length. All flexible air ducts shall be limited in length to 7 feet for any one trunk or duct branch.

15.26.2790 IMC Chapter 6, Section 603.6.2.1 Connector length–Amended.

IMC Chapter 6, Section 603.6.2.1 Connector length is hereby amended to read in its entirety as follows:

603.6.2.1 Connector length. All flexible air connectors shall be limited in length to 7 feet.

15.26.28300 IMC Chapter 6, Section [BS] 603.13 Flood hazard areas–Amended.

IMC Chapter 6, Section [BS] 603.13 Flood hazard areas is hereby amended to read in its entirety as follows:

[BS] 603.13 Flood hazard areas. See Chapter 15.32, Flood Area Construction Regulations, of the Rapid City Municipal Code.

~~15.26.290~~ IMC Chapter 6, Section 604.1 General–Amended.

~~—IMC Chapter 6, Section 604.1 General is hereby amended to read in its entirety as follows:~~

~~—**604.1 General.** Duct insulation shall conform to the requirements of Sections 604.2 through 604.13.~~

15.26.3010 IMC Chapter 6, Section 606.2.1 Return air systems–Amended.

IMC Chapter 6, Section 606.2.1 Return air systems is hereby amended to read in its entirety as follows:

606.2.1 Return air systems. Smoke detectors shall be installed in return air systems with a design capacity greater than 2,000 cfm (0.9 m³/s), in the return air duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances.

Exceptions:

1. Smoke detectors are not required in the return air system where all portions of the building served by the air distribution system are protected by area smoke detectors connected to a fire alarm system in accordance with the International Fire Code. The area smoke detection system shall comply with Section 606.4.

2. For types A-3, B, M, and I-1 occupancies three stories or less, limited area smoke detection provided within commonly occupied spaces including corridors, rooms open to corridors, egress routes, conference rooms, similar common use spaces, rooms containing specialized equipment, or as required by the Fire Department or Building Official, may be utilized in lieu of duct detection.

For this exception, limited area detection shall be defined as detection provided as identified in exception # 2 designed and installed in accordance with the provisions set forth in the most current edition of NFPA 72.

3. Smoke detectors are not required in the return air system if an NFPA 13 sprinkler system is installed and monitored.

15.26.320 IMC Chapter 6, Section 603.8.2 Sealing–Amended.

IMC Chapter 6, Section 603.8.2 Sealing is hereby amended to read in its entirety as follows:

603.8.2 Sealing. Ducts shall be sealed, secured and tested prior to concrete encasement or direct burial.

15.26.330 IMC Chapter 6, Section 604.1 General–Amended.

IMC Chapter 6, Section 604.1 General is hereby amended to read in its entirety as follows:

604.1 General. Duct insulation shall conform to the requirements of Sections 604.2 through 604.13.

15.26.3140 IMC Chapter 9, Section 901.1 Scope–Amended.

IMC Chapter 9, Section 901.1 Scope is hereby amended to read in its entirety as follows:

901.1 Scope. This chapter shall govern the approval, design, installation, construction, maintenance, alteration and repair of the appliances and equipment specifically identified herein and factory-built fireplaces. The approval, design, installation, construction, maintenance, alteration and repair of gas-fired appliances shall be regulated by the International Fuel Gas Code – Chapters 2, 3, 5, 6, 7, 8 and Appendix B as adopted by the City of Rapid City and the Rapid City Gas Code.

15.26.3250 IMC Chapter 9, Section 903.3 Unvented gas log heaters–Deleted.

IMC Chapter 9, Section 903.3 Unvented gas log heaters, is hereby deleted in its entirety.

15.26.3360 IMC Chapter 9, Section 906.1 General–Amended.

IMC Chapter 9, Section 906.1 General is hereby amended to read in its entirety as follows:

906.1 General. Factory-built barbecue appliances shall be of an approved type and shall be installed in accordance with the manufacturer’s installation instructions, this chapter and Chapters 3, 5, 7, 8 and the Rapid City Gas Code.

15.26.3470 IMC Chapter 9, Section 908.5 Water supply–Amended.

IMC Chapter 9, Section 908.5 Water supply is hereby amended to read in its entirety as follows:

908.5 Water supply. Water supplies and protection shall be as required by the current Plumbing Code adopted by the City of Rapid City.

15.26.3580 IMC Chapter 10, Section 1002.1 General–Amended.

IMC Chapter 10, Section 1002.1 General is hereby amended to read in its entirety as follows:

1002.1 General. Potable water heaters and hot water storage tanks shall be listed and labeled and installed in accordance with the manufacturer's installation instructions, the current Plumbing Code adopted by the City of Rapid City, and this code. All water heaters shall be capable of being removed without first removing a permanent portion of the building structure. The potable water connections and relief valves for all water heaters shall conform to the requirements of the current Plumbing Code adopted by the City of Rapid City. Domestic electric water heaters shall comply with UL 174 or UL 1453. Commercial electric water heaters shall comply with UL 1453. Oil-fired water heaters shall comply with UL 732.

15.26.3690 IMC Chapter 10, Section 1002.2 Water heaters utilized for space heating—Amended.

IMC Chapter 10, Section 1002.2 Water heaters utilized for space heating is hereby amended to read in its entirety as follows:

1002.2 Water heaters utilized for space heating. Water heaters utilized both to supply potable hot water and provide hot water for space-heating applications shall be listed and labeled for such applications by the manufacturer and shall be installed in accordance with the manufacturer's installation instructions and the current Plumbing Code adopted by the City of Rapid City.

1002.2.1 Sizing. Water heaters utilized for both potable water heating and space-heating applications shall be sized to prevent the space-heating load from diminishing the required potable water-heating capacity.

1002.2.2 Temperature limitation. Where a combination potable water-heating and space-heating system requires water for space heating at temperatures higher than 140°F (60°C), a temperature-actuated mixing valve that conforms to ASSE 1017 shall be provided to temper the water supplied to the potable hot water distribution system to a temperature of 140°F (60°C) or less.

15.26.37400 IMC Chapter 10, Section 1002.3 Supplemental water-heating devices—Amended.

IMC Chapter 10, Section 1002.3 Supplemental water-heating devices is hereby amended to read in its entirety as follows:

1002.3 Supplemental water-heating devices. Potable water-heating devices that utilize refrigerant-to-water heat exchangers shall be approved and installed in accordance with the current Plumbing Code adopted by the City of Rapid City and the manufacturer's installation instructions.

15.26.38410 IMC Chapter 10, Section 1005.2 Potable water supply—Amended.

IMC Chapter 10, Section 1005.2 Potable water supply is hereby amended to read in its entirety as follows:

1005.2 Potable water supply. The water supply to all boilers shall be connected in accordance with the current Plumbing Code adopted by the City of Rapid City.

15.26.39420 IMC Chapter 10, Section 1006.6 Safety and relief valve discharge—Amended.

IMC Chapter 10, Section 1006.6 Safety and relief valve discharge is hereby amended to read in its entirety as follows:

1006.6 Safety and relief valve discharge. Safety and relief valve discharge pipes shall be of rigid pipe that is approved for the temperature of the system. ~~The discharge pipe shall be the same diameter as the safety or relief valve outlet. Safety and relief valves shall not discharge so as to be a hazard, a potential cause of damage or otherwise a nuisance. High-pressure-steam safety valves shall be vented to the outside of the structure. Where a low pressure safety valve or a relief valve discharges to the drainage system, the installation shall conform to the current Plumbing Code adopted by the City of Rapid City.~~ The discharge piping serving pressure relief valves, temperature relief valves and combinations of such valves shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air break located in the same room as the appliance.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air break.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the boiler or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping.

12. Not have valves or tee fittings.

13. Be constructed of those materials listed in Section 605.4 of the current Plumbing Code adopted by the City of Rapid City or materials tested, rated and approved for such use in accordance with ASME A112.4.1.

15.26.4030 IMC Chapter 10, Section 1008.2 Discharge–Amended.

IMC Chapter 10, Section 1008.2 Discharge is hereby amended to read in its entirety as follows:

1008.2 Discharge. Blowoff valves shall discharge to a safe place of disposal. Where discharging to the drainage system, the installation shall conform to the current Plumbing Code adopted by the City of Rapid City.

15.26.4140 IMC Chapter 10, Section 1009.3 Open-type expansion tanks–Amended.

IMC Chapter 10, Section 1009.3 Open-type expansion tanks is hereby amended to read in its entirety as follows:

1009.3 Open-type expansion tanks. Open-type expansion tanks shall be located a minimum of 4 feet (1219 mm) above the highest heating element. The tank shall be adequately sized for the hot water system. An overflow with a minimum diameter of 1 inch (25 mm) shall be installed at the top of the tank. The overflow shall discharge to the drainage system in accordance with the current Plumbing Code adopted by the City of Rapid City.

15.26.450 IMC Chapter 10, Section 1011 Tests–Deleted.

IMC Chapter 10, Section 1011 Tests is hereby deleted in its entirety.

15.26.4260 IMC Chapter 11, Section 1101.4 Water connection–Amended.

IMC Chapter 11, Section 1101.4 Water connection is hereby amended to read in its entirety as follows:

1101.4 Water connection. Water supply and discharge connections associated with refrigeration systems shall be made in accordance with this code and the current Plumbing Code adopted by the City of Rapid City.

15.26.4370 IMC Chapter 11, Section 1101.5 Fuel gas connection–Amended.

IMC Chapter 11, Section 1101.5 Fuel gas connection is hereby amended to read in its entirety as follows:

1101.5 Fuel gas connection. Fuel gas devices, equipment and appliances used with refrigeration systems shall be installed in accordance with the Rapid City Gas Code.

15.26.480 IMC Chapter 11, Section 1101.10 Locking access port caps–Deleted.

IMC Chapter 11, Section 1101.10 Locking access port caps is hereby deleted in its entirety.

15.26.490 IMC Chapter 11, Section 1102.3 Access port protection–Deleted.

IMC Chapter 11, Section 1102.3 Access port protection is hereby deleted in its entirety.

15.26.44500 IMC Chapter 12, Section 1201.1 Scope–Amended.

IMC Chapter 12, Section 1201.1 Scope is hereby amended to read in its entirety as follows:

1201.1 Scope. The provisions of this chapter shall govern the construction, installation, alteration and repair of hydronic piping systems. This chapter shall apply to hydronic piping systems that are part of heating, ventilation and air-conditioning systems. Such piping systems shall include steam, hot water, chilled water, steam condensate and ground source heat pump loop systems. Potable cold and hot water distribution systems shall be installed in accordance with the current Plumbing Code adopted by the City of Rapid City.

15.26.4510 IMC Chapter 12, Section 1206.2 System drain down–Amended.

IMC Chapter 12, Section 1206.2 System drain down is hereby amended to read in its entirety as follows:

1206.2 System drain down. Hydronic piping systems shall be designed and installed to permit the system to be drained. Where the system drains to the plumbing drainage system, the installation shall conform to the requirements of the current Plumbing Code adopted by the City of Rapid City.

Exception: The buried portions of systems embedded underground or under floors.

15.26.46520 IMC Chapter 12, Section 1206.3 Protection of potable water–Amended.

IMC Chapter 12, Section 1206.3 Protection of potable water is hereby amended to read in its entirety as follows:

1206.3 Protection of potable water. The potable water system shall be protected from backflow in accordance with the current Plumbing Code adopted by the City of Rapid City.

15.26.47530 IMC Chapter 12, Section 1206.9.1 Flood hazard–Amended.

IMC Chapter 12, Section 1206.9.1 Flood hazard is hereby amended to read in its entirety as follows:

1206.9.1 Flood hazard. See Chapter 15.32, Flood Area Construction Regulations, of the Rapid City Municipal Code.

15.26.48540 IMC Chapter 13, Section 1305.2.1 Flood hazard–Amended.

IMC Chapter 13, Section 1305.2.1 Flood hazard is hereby amended to read in its entirety as follows:

1305.2.1 Flood hazard. See Chapter 15.32, Flood Area Construction Regulations, of the Rapid City Municipal Code.

15.26.49550 IMC Chapter 14, Section 1401.2 Potable water supply–Amended.

IMC Chapter 14, Section 1401.2 Potable water supply is hereby amended to read in its entirety as follows:

1401.2 Potable water supply. Potable water supplies to solar systems shall be protected against contamination in accordance with the current Plumbing Code adopted by the City of Rapid City.

Exception: Where all solar system piping is a part of the potable water distribution system, in accordance with the requirements of the current Plumbing Code adopted by the City of Rapid City, and all components of the piping system are listed for potable water use, cross-connection protection measures shall not be required.

CITY OF RAPID CITY

Mayor

ATTEST

Finance Officer

(seal)

First Reading:
Second Reading:
Published:
Effective: