Chapter 9.06 Mechanical and Fuel Gas Codes

9.06.01. Adopted.

The City Council hereby adopts the International Mechanical Code, 2018 Edition, including Appendix A, and the International Fuel Gas Code, 2018 Edition, including Appendices B and C, as published by the International Code Council, Inc. for regulating the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use, or maintenance of heating, ventilation, cooling, refrigeration, incinerators, or other miscellaneous heat producing appliances in the City, and for providing for performance of inspections and collection of fees therefore. The minimum mechanical standards referenced in the International Mechanical Code and the International Fuel Gas Code shall be applied to any permit issued after June 30, 2018. A copy of this Code shall be kept on file in the office of the Building Official.

9.06.02. Local amendments, additions, and deletions to the 2018 International Mechanical and Fuel Gas Codes.

The following sections and subsections of the mechanical code adopted in this Ordinance shall be amended, added, or deleted as follows. All other sections or subsections of the 2018 International Mechanical Code shall remain as originally published.

101.1 Title. These regulations shall be known as the Mechanical Code of the City of Harrisburg, and shall be referred to herein as “this code”.

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, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the International Fuel Gas Code.

Exceptions:

1. Detached one- and two-family dwellings and multiple single-family dwellings (town houses) not more than three stories high with separate means of egress and their accessory structures shall comply with the International Residential Code.
2. Mechanical systems in existing buildings undergoing repair, alterations or additions, and change in occupancy shall be permitted to comply with the International Existing Building Code.

103.2 Appointment. Not adopted by the city.

103.4 Liability. The Building Official, member of the board of appeals, or employee charged with the enforcement of this code, while acting for the City in good faith and

without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties.

103.4.1 Legal defense. Any suit instituted against any 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 code, shall be afforded all the protection provided by the City's insurance pool and immunities and defenses provided by other applicable state and federal laws and be defended by the legal representative of the City until the final termination of the proceedings. The Building Official or any subordinate shall not be liable for costs in an action, suit, or proceeding that is instituted in pursuance of the provisions of this code.

106.5.1 Work commencing before permit issuance. Any person who commences work on a mechanical system before obtaining the necessary permits shall be subject to a Late Application Fee established by resolution by the City Council that shall be in addition to the required permit fees.

106.5.2 Fee schedule. The fees for mechanical work shall be adopted by resolution by the City Council.

106.5.3 Fee refunds. The Building Official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder which was erroneously paid or collected.
2. Not more than 80 percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.
3. Not more than 80 percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The Building Official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

107.2 Required inspections and testing. It shall be the duty of the mechanical contractor, or his designated mechanic doing the work authorized by a permit, to notify the mechanical inspector that such work is ready for inspection. The Building Official may require that every request for inspection be filed at least one working day before such inspection is desired.

The mechanical inspector, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the

permit holder or the permit holder's agent of violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before backfill is put in place. When excavated soil contains rocks, broken concrete, frozen chunks, and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.
2. Rough-in inspection shall be made after the roof, framing, fireblocking, and bracing are in place and all ducting and other components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the mechanical system.

Exception: Ground-source heat pump loop systems tested in accordance with Section 1208.1.1 shall be permitted to be backfilled prior to inspection.

The requirements of this section shall not be considered to prohibit the operation of any heating appliances installed to replace existing heating appliances serving an occupied portion of a structure provided that a request for inspection of such heating appliances has been filed with the department not more than 48 hours after such replacement work is placed into operation or substantially completed, and before any portion of such equipment or appliances is concealed by any permanent portion of the structure.

108.4 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, or repair mechanical work in violation of the approved construction documents or directive of the Building Official, or of a permit or certificate issued under the provisions of this code, shall be guilty of an ordinance violation, which is a Class 2 Misdemeanor. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

108.5 Stop work orders. Upon notice from the Building Official that mechanical work is being done contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's agent, or to the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the Building Official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system 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, shall be guilty of an ordinance violation.

109.1 Designation of Board of Appeals. In order to hear and decide appeals of orders, decisions, or determinations made by the Building Official relative to the application and interpretation of this code, the City Council hereby assumes the duties

of the Board of Appeals for this code. All decisions and findings of the Board shall be final and shall be rendered in writing to the appellant with a duplicate copy to the Building Official.

109.1.1 Limitation of authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. If the appeal is based on a claim that an equally good or better form of construction was improperly denied, the appellant must submit the alternate material, design, or method of construction they are proposing. The appellant also has the burden to demonstrate to the Board that the alternative method or material that they are proposing is an equally good or better form of construction. The Board shall have no authority to waive the requirements of the International Mechanical Code as adopted by the City.

109.2 Membership of board. Not adopted by the City.

109.2.1 Qualifications. Not adopted by the City.

109.2.2 Alternate members. Not adopted by the City.

109.2.3 Chairman. Not adopted by the City.

109.2.4 Disqualification of member. Not adopted by the City.

109.2.5 Secretary. Not adopted by the City.

109.2.6 Compensation of members. Not adopted by the City.

109.3 Notice of meeting. Not adopted by the City.

109.4 Open hearing. All hearings before the Board shall be open to the public. The appellant, the appellant's representative, the Building Official, any member of the City's staff, or any person whose interests are affected shall be given an opportunity to be heard.

109.4.1 Procedure. Not adopted by the City.

109.5 Postponed hearing. Not adopted by the City.

109.6 Submission of appeals. All appeals must be submitted in writing to the Building Official within ten days of the order, decision, or determination of the Building Official that is being appealed. Once the appeal is received by the Building Official, he shall place the appeal on the Council’s next regular meeting agenda that is more than seven days (inclusive) from the date of receipt of the appeal.

109.6.1 Resolution. Not adopted by the City.

109.6.2 Administration. Not adopted by the City.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code, International Residential Code, International Existing Building Code, or International Fuel Gas Code, such terms shall have meanings ascribed to them as in those codes.

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 Plumbing Code adopted by the State of South Dakota.

301.13 Vibration isolation. Where vibration isolation of equipment and appliances is employed, an approved means of supplemental restraint shall be used to accomplish the support and restraint.

Piping, electrical conduit, ductwork, vents and the like shall not be used to provide support or restraint of equipment.

Where other portions of this code or provisions of the building code require noncombustible construction or supports, noncombustible materials shall also be used to meet the requirements of this section.

304.10 Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 1 1/2 inches above adjoining grade or shall be suspended not less than 6 inches above adjoining grade. Such support shall be in accordance with the manufacturer's installation instructions.

Equipment and appliances including the service areas shall be provided with a minimum 80-inch headroom clearance.

306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet above grade or floor level 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 in height or walking on roofs having a slope greater than 4 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 when the ladder is located on the exterior of the building. The side railing shall extend within 6 inches of the roof access hatch, and the side railing shall terminate within 1 inch from the side of the roof curb or wall the ladder is attached when the ladder is located in the building.
2. Ladders shall have rung spacing not to exceed 14 inches on center. The uppermost rung shall be a maximum of 24 inches 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 deep.
4. There shall be a minimum of 18 inches between rails.
5. Rungs shall have a minimum 0.75-inch diameter and be capable of withstanding a 300-pound load.
6. Ladders over 30 feet in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot. Landing dimensions shall be not less than 18 inches 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 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 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 by 30 inches 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.
11. Exterior access may be by means of a ladder which need not extend closer than 8 feet to finished grade.
12. When a new hatch is being used to access equipment or appliances on a roof or elevated structure, the handle or release must be on the same side of the roof hatch as the ladder or within 18 inches of the ladder.

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

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

306.6 Appliances above suspended ceilings. Rooms containing appliances above suspended ceilings shall be installed in accordance with Section 306.2. In such locations there shall be a space of not less than 30 inches wide by 30 inches deep from the top of the service area of the appliance to the level floor below. Any obstructions are limited to lights and the suspended ceiling system. A wall or partition shall be allowed in the first 6 inches of the 30-inch-deep service area in front of the appliance, provided the wall or partition terminates below the bottom of the appliance

and the depth of the service space is increased to 36 inches deep from the top of the appliance to the level floor below.

312.1 Load calculations. When deemed necessary by the mechanical inspector, 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 of the International Energy Conservation Code, 2015 Edition.

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

1. Intake openings shall be located a minimum of 10 feet from lot lines or buildings on the same lot.
2. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet from any hazardous or noxious contaminant 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 located less than 10 feet horizontally from streets, alleys, parking lots and loading docks provided that the openings are located not less than 25 feet vertically above such locations. Where openings front on a street or public way, the distance shall be measured from the centerline of the street or public way.
3. Intake openings shall be located not less than 3 feet below contaminant sources where such sources are located within 10 feet of the opening.
4. Intake openings on structures in flood hazard areas shall be at or above the elevation required by Section 1612 of the International Building Code for utilities and attendant equipment.

501.3.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet from property lines; 10 feet from operable openings into buildings; 6 feet from exterior walls and roofs; 30 feet from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; and 10 feet above adjoining grade.
2. For other product-conveying outlets: 10 feet from the property lines; 3 feet from exterior walls and roofs; 10 feet from operable openings into buildings; 10 feet above adjoining grade.
3. For all environmental air exhaust: 3 feet from property lines; 3 feet from operable openings into buildings for all occupancies other than Group U, and 10 feet from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious.

Exception. Bathroom exhaust fans serving individual dwelling units or sleeping units in Group Rs may be 3 feet from property lines, operable openings, and mechanical air intakes.

4. Exhaust outlets serving structures in flood hazard areas shall be installed at or above the elevation required by Section 1612 of the International Building Code for utilities and attendant equipment.
5. For specific systems see the following sections:
   5.1. Clothes dryer exhaust, Section 504.4.
   5.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.13, 506.4 and 506.5.
   5.3. Dust stock and refuse conveying systems, Section 511.2.
   5.4. Subslab soil exhaust systems, Section 512.4.
   5.5. Smoke control systems, Section 513.10.3.
   5.6. Refrigerant discharge, Section 1105.7.
   5.7. Machinery room discharge, Section 1105.6.1.

506.3.6 Grease duct clearances. Where enclosures are not required, grease duct systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches, and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches.

Exceptions:

1. Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978.
2. Listed and labeled exhaust equipment installed in accordance with Section 304.1.
3. Where commercial kitchen grease ducts are continuously covered on all sides with a listed and labeled field-applied grease duct enclosure material, system, product, or method of construction specifically evaluated for such purpose in accordance with ASTM E 2336, the required clearance shall be in accordance with the listing of such material, system, product or method.
4. The 18-inch clearance to combustible construction is allowed to be reduced to 3 inches where the combustible construction is protected with materials as required for a one-hour fire-resistive construction for hood replacements only where the existing adjacent construction is combustible.

506.3.8 Grease duct cleanouts and openings. Grease duct cleanouts and openings shall comply with all of the following:

1. Grease ducts shall not have openings except where required for the operation and maintenance of the system.
2. Sections of grease ducts that are inaccessible from the hood or discharge openings shall be provided with cleanout openings.
3. Cleanout doors shall be classified in accordance with NFPA 96 or UL 1978.
4.
4. Cleanout doors shall be installed liquid-tight.

5. Door assemblies including any frames and gaskets shall be approved for the application and shall not have fasteners that penetrate the duct.
6. Gasket and sealing materials shall be rated for not less than 1500ºF.
7. Listed door assemblies shall be installed in accordance with the manufacturer's instructions.

506.3.11.4 Combustible clearance reduction. The 18-inch clearance to combustible construction is allowed to be reduced to 3 inches where the combustible construction is protected with materials as required for a one-hour fire-resistive construction for hood replacements only where the existing adjacent construction is combustible.

507.2.6 Clearances for Type I hood. A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches.

Exceptions:
1. Clearance shall not be required from gypsum wallboard or 1/2-inch or thicker cementitious wallboard attached to noncombustible structures provided that a smooth, cleanable, nonabsorbent, and noncombustible material is installed between the hood and the gypsum or cementitious wallboard over an area extending not less than 18 inches in all directions from the hood.
2. The 18-inch clearance to combustible construction is allowed to be reduced to 3 inches where the combustible construction is protected with materials as required for a one-hour fire-resistive construction for hood replacements only where the existing adjacent construction is combustible.

507.3 Type II hoods. Type II hoods shall be installed above dishwashers and appliances that produce heat or moisture and do not produce grease or smoke as a result of the cooking process, except where the heat and moisture loads from such appliances are incorporated into the HVAC system design or into the design of a separate removal system. Type II hoods shall be installed above all appliances that produce products of combustion and do not produce grease or smoke as a result of the cooking process. Spaces containing cooking appliances that do not require Type II hoods shall be provided with exhaust at a rate of 0.70 cfm per square foot. For the purpose of determining the floor area required to be exhausted, each individual appliance that is not required to be installed under a Type II hood shall be considered as occupying not less than 100 square feet. Such additional square footage shall be provided with exhaust at a rate of 0.70 cfm per square foot.

Exception: An above counter high temperature dishwasher shall be installed under a Type II hood.

508.1.1 Makeup air temperature. The temperature of makeup air shall not be more than 10ºF below the temperature of the air in the conditioned space.

Exceptions:
1. Makeup air that is part of the air-conditioning system.
2. Makeup air that does not decrease the comfort conditions of the occupied space.

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 Plumbing Code 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.

512.5 Identification. Not adopted by the City.

602.2.1.1 Wiring. Combustible electrical wires and cables and optical fiber cables exposed within a plenum shall be listed as having a maximum peak optical density of 0.50 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 5 feet or less when tested in accordance with NFPA 262 or shall be installed in metal raceways or metal sheathed cable. Combustible optical fiber and communication raceways exposed within a plenum shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 5 feet or less when tested in accordance with ANSI/UL 2024. Only plenum-rated wires and cables shall be installed in plenum-rated raceways. Electrical wires and cables, optical fiber cables and raceways addressed in this section shall be listed and labeled and shall be installed in accordance with NFPA 70.

Exception: Alternate wiring systems located within a plenum serving an information technology equipment room are allowed per NFPA 70.

603.2 Duct sizing. Ducts installed within a single dwelling unit shall be sized in accordance with ACCA Manual D or other approved methods. Ducts installed within all other buildings may be sized in accordance with the ASHRAE Handbook of Fundamentals or other equivalent computation procedure.

603.4 Metallic ducts. All metallic ducts shall be constructed as specified in the SMACNA HVAC Duct Construction Standards—Metal and Flexible.

Exceptions:
1. Ducts installed within single dwelling units shall have a minimum thickness as specified in Table 603.4.
2. "Ductmate Standards" shall be allowed when using "Ductmate" connections.

Table 603.4 Duct Construction Minimum Sheet Metal Thicknesses for Single Dwelling Units

Duct Size	Minimum Thickness Inches and (mm)	Equivalent Galvanized Sheet No.	Minimum Thickness (In.)
Round ducts and enclosed rectangular ducts			
<14 inches	0.0127 (0.3188 mm)	30	0.0175
14 to 18 inches	0.0187 (0.4712 mm)	26	0.018
>18 inches	0.0236 (0.6010 mm)	24	0.023
Exposed rectangular ducts			
14 inches or less	0.0157 (0.3950 mm)	28	0.0175
Over 14 inches [a]	0.0187 (0.4712 mm)	26	0.018
For SI: 1 inch = 25.4 mm.			
a. For duct gages and reinforcement requirements at static pressures of 1/2 inch, 1 inch and 2 inches; w.c., SMACNA Duct Construction Standard Tables 2-1, 2-2 and 2-3 shall apply.			

603.6.1.1 Duct length. Flexible air ducts shall be limited to 14 feet in length.

603.6.2 Flexible air connectors. Not adopted by the City.

603.6.2.1 Connector length. Not adopted by the City.

603.6.2.2 Connector penetration limitations. Not adopted by the City.

603.6.3 Air temperature. The design temperature of air to be conveyed in flexible air ducts shall be less than 250ºF.

603.9 Joints, seams and connections. All longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC Duct Construction Standards—Metal and Flexible and NAIMA Fibrous Glass Duct Construction Standards. All joints, longitudinal and transverse seams and connections in ductwork outside the building thermal envelope, all return ducts located within 10 feet of any appliance or all return ducts within a mechanical room, and all supply main trunk ducts and branch duct connections to the main trunk ducts shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants or tapes. Closure systems used to seal ductwork listed and labeled in accordance with UL 181A shall be marked "181A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat-sensitive tape. Closure systems used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked "181B-C." Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions. Unlisted duct tape is not permitted as a sealant on any duct.

Exception: Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column pressure classification shall not require additional closure systems.

606.4.1 Supervision. The duct smoke detectors shall be connected to a fire alarm system where a fire alarm system is required by Section 907.2 of the International Fire Code. The actuation of a duct smoke detector shall activate a visible and audible supervisory signal at a constantly attended location. Duct smoke detectors installed more than 10 feet above a finished floor, above a ceiling or on a rooftop shall be installed with remote test/indicators in an approved location below and in proximity to the unit served.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where the duct smoke detector activates the building's alarm-indicating appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and audible signal in an approved location. Duct smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

802.3 Installation. Vent systems shall be sized, installed, and terminated in accordance with the vent and appliance manufacturer's installation instructions. Type L vents shall not be installed with offsets in concealed spaces.

9.07.03. Local amendments, additions, and deletions to the 2018 International Fuel Gas Code. The following sections and subsections of the fuel gas code adopted in this Ordinance shall be amended, added, or deleted as follows. All other sections or subsections of the 2018 International Fuel Gas Code shall remain as originally published.

101.1 Title. These regulations shall be known as the Fuel Gas Code of the City of Harrisburg, South Dakota, hereinafter referred to as "this code."

101.2 Scope. This code shall apply to the installation of fuel gas piping systems, fuel gas appliances, gaseous hydrogen systems, and related accessories in accordance with Sections 101.2.1 through 101.2.5.

Exceptions:

1. Detached one- and two-family dwellings and multiple single-family dwellings (town houses) not more than three stories high with separate means of egress and their accessory structures shall comply with the International Residential Code.
2. Mechanical systems in existing buildings undergoing repair, alterations or additions, and change of occupancy shall be permitted to comply with the International Existing Building Code.

103.2 Appointment. Not adopted by the City.

103.4 Liability. The Building Official, member of the board of adjustment, or employee charged with the enforcement of this code, while acting for the City in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, 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 or by reason of an act or omission in the discharge of official duties.

Any suit instituted against any officer or employee, because of an act or omission performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be afforded all the protection provided by the City's insurance pool and immunities and defenses provided by other applicable state and federal laws and defended by the legal representative of the City until the final termination of the proceedings. The Building Official or any subordinate shall not be liable for costs in an action, suit, or proceeding that is instituted in pursuance of the provisions of this code.

106.1 Where required. An owner, authorized agent, or contractor who desires to erect, install, enlarge, alter, repair, remove, convert, or replace an installation regulated by this code, or to cause such work to be done, shall first make application to the Building Official and obtain the required permit for the work.

Exception: Where appliance and equipment replacements and repairs are required to be performed in an emergency situation, the inspection request shall

be submitted within 48 hours after the replacement work is completed and before any portion of the appliance is concealed by any permanent portion of the structure.

106.6.1 Work commencing before permit issuance. Any person who commences work on an installation before obtaining the necessary permits may be subject to a Late Application Fee established by resolution by the City Council that shall be in addition to the required permit fees.

106.6.2 Fee schedule. The fees for work shall be as adopted by resolution by the City Council.

106.6.3 Fee refunds. The Building Official shall authorize the refunding of fees as follows.

1. The full amount of any fee paid hereunder which was erroneously paid or collected.
2. Not more than 80 percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.
3. Not more than 80 percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The Building Official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

107.2 Required inspections and testing. The mechanical inspector, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or notify the permit holder or the permit holder's agent of violations that are required to be corrected. The holder of the permit shall be responsible for scheduling such inspections.

It shall be the duty of the mechanical contractor, or his designated mechanic, doing the work authorized by a permit to notify the mechanical inspector that such work is ready for inspection. The building official may require that every request for inspection be filed at least one working day before such inspection is desired.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping is installed, and before backfill is put in place. When excavated soil contains rocks, broken concrete, frozen chunks, and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.

2. Rough-in inspection shall be made after the roof, framing, fireblocking, and bracing are in place and components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the installation.

The requirements of this section shall not be considered to prohibit the operation of any heating appliance installed to replace existing heating appliance serving an occupied portion of a structure in the event a request for inspection of such heating appliance has been filed with the department not more than 48 hours after replacement work is placed into operation or substantially completed, and before any portion of such appliance is concealed by any permanent portion of the structure.

108.4 Violation penalties. Persons who shall violate a provision of this code, fail to comply with any of the requirements thereof, or erect, install, alter, or repair work in violation of the approved construction documents or directive of the Building Official, or of a permit or certificate issued under the provisions of this code, shall be guilty of an ordinance violation. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

108.5 Stop work orders. Upon notice from the Building Official that work is being done contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, the owner's agent, or the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the Building Official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system 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, shall be guilty of an ordinance violation and punishable by the general provisions of this code.

109.1 Board of appeals. In order to hear and decide appeals of orders, decisions, or determinations made by the Building Official relative to the application and interpretation of this code, the City Council hereby assumes the responsibilities of the Board of Appeals for this code. All decisions and findings of the Board shall be final and shall be rendered in writing to the appellant with a duplicate copy to the Building Official.

109.1.1 Limitation of authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. If the appeal is based on a claim that an equally good or better form of construction was improperly denied, the appellant must submit the alternate material, design, or method of construction they are proposing. The appellant also has the burden to demonstrate to the Board that the alternative method or material that they are proposing is an equally good

or better form of construction. The Board shall have no authority to waive the requirements of the International Fuel Gas Code as adopted by the City.

109.2 Membership of board. Not adopted by the City.

109.2.1 Qualifications. Not adopted by the City.

109.2.2 Alternate members. Not adopted by the City.

109.2.3 Chairman. Not adopted by the City

109.2.4 Disqualification of member. Not adopted by the City.

109.2.5 Secretary. Not adopted by the City.

109.2.6 Compensation of members. Not adopted by the City.

109.3 Notice of meeting. Not adopted by the City.

109.4 Open hearing. All hearings before the Board shall be open to the public. The appellant, the appellant's representative, the Building Official, any member of the City's staff, or any person whose interests are affected shall be given an opportunity to be heard.

109.4.1 Procedure. Not adopted by the City.

109.5 Postponed hearing. Not adopted by the City.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code, International Residential Code, International Fire Code, International Existing Building Code, International Mechanical Code, or State Plumbing Code, such terms shall have meanings ascribed to them as in those codes.

301.6 Plumbing connections. Potable water supply and building drainage system connections to appliances regulated by this code shall be in accordance with the Plumbing Code adopted by the State of South Dakota.

304.6 Outdoor combustion air. Outdoor combustion air shall be provided through opening(s) to the outdoors in accordance with Section 304.6.1, 304.6.2, or 304.6.3. The minimum dimension of air openings shall be not less than 3 inches.

304.6.3 Alternate combustion air sizing (IFGC). As an alternate, the net free area of openings, ducts, or plenums supplying air to an area containing gas- and oil-burning appliances shall be in accordance with B149.1-10, Natural Gas and

Propane Installation Code, published by the Canadian Standards Association (CSA).

When all air is taken from the outdoors for appliances, one outside air duct may be used and shall terminate below the draft hood. An exterior opening may be used in place of a duct provided that it terminates within 1 foot above, and within 2 feet horizontally from, the burner level of the appliance having the largest input.

The combustion air duct is required to be upsized one diameter size when a dryer is installed in the same room as the combustion air.

304.11 Combustion air ducts. Combustion air ducts shall comply with all of the following:

1. Ducts shall be constructed of galvanized steel complying with Chapter 6 of the International Mechanical Code or of a material having equivalent corrosion resistance, strength and rigidity.

   Exception: Within dwellings units, unobstructed stud and joist spaces shall not be prohibited from conveying combustion air, provided that not more than one required fire block is removed.

2. Ducts shall terminate in an unobstructed space allowing free movement of combustion air to the appliances.

3. Ducts shall serve a single enclosure.

4. Ducts shall not serve both upper and lower combustion air openings where both such openings are used. The separation between ducts serving upper and lower combustion air openings shall be maintained to the source of combustion air.

5. Ducts shall not be screened where terminating in an attic space.

6. Horizontal upper combustion air ducts shall not slope downward toward the source of combustion air.

7. The remaining space surrounding a chimney liner, gas vent, special gas vent, or plastic piping installed within a masonry, metal, or factory-built chimney shall not be used to supply combustion air.

   Exception: Direct-vent gas-fired appliances designed for installation in a solid fuel-burning fireplace where installed in accordance with the manufacturer's instructions.

8. Combustion air intake openings located on the exterior of a building shall have the lowest side of such openings located not less than 12 inches vertically from the adjoining finished ground level.

9. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots, and loading docks, except as specified in Item 3 or Section 501.3.1 of the International Mechanical Code.

305.1 General. Equipment and appliances shall be installed as required by the terms of their approval in accordance with the conditions of listing, the manufacturer's instructions, and this code. Manufacturer's installation instructions shall be available on the job site at the time of inspection. Where a code provision is less restrictive than the conditions of the listing of the equipment or appliance or the manufacturer's installation instructions, the conditions of the listing and the manufacturer's installation instructions shall apply.

After completion of the installation, all safety and operating controls and venting shall be tested before placing the burner in service in accordance with the manufacturer's installation instructions. The following requirements need to be recorded and affixed to the inside of the gas train access panel:

1. The rate of flow of the gas or fuel shall be adjusted to within plus or minus 5 percent of the required Btu/hr rating at the manifold pressure specified by the manufacturer. When the prevailing pressure is less than the manifold pressure specified, the rates shall be adjusted at the prevailing pressure.
2. The gas inlet pressure per the manufacturer's installation settings.
3. The temperature rise across the heat exchanger per the manufacturer's installation settings.
4. The static pressure of the supply and return ducts per the manufacturer's installation settings.

Unlisted appliances approved in accordance with Section 301.3 shall be limited to uses recommended by the manufacturer and shall be installed in accordance with the manufacturer's instructions, the provisions of this code, and the requirements determined by the building official.

306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet above grade or floor level 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 in height or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33 percent slope). Such access shall not require the use of portable ladders.

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 when the ladder is located on the exterior of the building. The side railing shall extend within 6 inches of the roof access hatch, and the side railing shall terminate within 1 inch from the side of the roof curb or wall the ladder is attached when the ladder is located in the building.
2. Ladders shall have rung spacing not to exceed 14 inches on center. The upper-most rung shall be a maximum of 24 inches 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 deep.
4. There shall be a minimum of 18 inches between rails.
5. Rungs shall have a minimum 0.75-inch diameter and be capable of withstanding a 300-pound load.
6. Ladders over 30 feet in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot. Landing dimensions shall be not less than 18 inches 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 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 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 by 30 inches 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.
11. Exterior access may be by means of a ladder which need not extend closer than 8 feet to finished grade.
12. When a new hatch is being used to access equipment or appliances on a roof or elevated structure, the handle or release must be on the same side of the roof hatch as the ladder or within 18 inches of the ladder.

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

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

306.7 Appliances above suspended ceilings. Rooms containing appliances above suspended ceilings shall be installed in accordance with Section 306.2. In such locations, there shall be a space of not less than 30 inches wide by 30 inches deep from the top of the service area of the appliance to the level floor below. Any

obstructions are limited to lights and the suspended ceiling system. A wall or partition shall be allowed in the first 6 inches of the 30-inch-deep service area in front of the appliance, provided the wall or partition terminates below the bottom of the appliance and the depth of the service space is increased to 36 inches deep from the top of the appliance to the level floor below.

310.1.1 CSST. Corrugated stainless steel tubing (CSST) gas piping systems shall be bonded to the electrical service grounding electrode system at the point where the gas service enters the building. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent. Gas piping systems that contain one or more segments of CSST shall be bonded in accordance with this section.

404.3 Prohibited locations. Piping shall not be installed in or through a ducted supply, return or exhaust, or a clothes chute, chimney or gas vent, dumbwaiter or elevator shaft.

502.5 Installation. Vent systems shall be sized, installed and terminated in accordance with the vent and appliance manufacturer's installation instructions and Section 503. Type B vents shall not be installed with offsets in concealed spaces.

503.4.1.1 Plastic vent joints. Plastic pipe and fittings used to vent appliances shall be installed in accordance with the appliance manufacturer's installation instructions. The primer shall be of a contrasting color.

Plastic pipe and fittings used to vent appliances shall be installed in accordance with the pipe manufacturer's installation instructions and the appliance manufacturer's installation instructions. Solvent cement joints between ABS pipe and fittings shall be cleaned. Solvent cement joints between CPVC and PVC pipe and fittings shall be primed.

Exception: Where compliance with this section would conflict with the appliance manufacturer's installation instructions.