

AN ORDINANCE OF THE CITY OF MESQUITE, TEXAS, AMENDING CHAPTER 5 OF THE CODE OF THE CITY OF MESQUITE BY DELETING SECTIONS 5-316 AND 5-317 OF ARTICLE VII IN THEIR ENTIRETY AND ADDING NEW SECTIONS 5-316 AND 5-317 OF ARTICLE VII THEREBY ADOPTING THE INTERNATIONAL MECHANICAL CODE, 2000 EDITION, AND PROVIDING CERTAIN ADDITIONS AND DELETIONS THERETO; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY NOT TO EXCEED TWO THOUSAND (\$2,000.00) DOLLARS FOR EACH OFFENSE; AND DECLARING AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MESQUITE, TEXAS:

SECTION 1: That Chapter 5 of the Code of the City of Mesquite, Texas, is hereby amended by deleting Sections 5-316 and 5-317 of Article VII in their entirety and adding new Sections 5-316 and 5-317 of Article VII to read as follows, in all other respects said Code, Chapter and Article to remain in full force and effect:

ARTICLE VII. MECHANICAL CODE

DIVISION 1. GENERALLY

Sec. 5-316. Adopted.

The *International Mechanical Code*, 2000 Edition, a publication of the International Code Council (ICC), is hereby adopted and designated as the official mechanical code of the City of Mesquite to the same extent as if such Code were copied verbatim in this Article subject to the amendments prescribed in this Article. The Code shall be applicable to all construction, alterations, repairs and maintenance of all buildings, structures, materials and equipment related to the building industry in the city. A copy of the *International Mechanical Code*, 2000 Edition, and amendments thereto shall be maintained in the office of the City Secretary as an original document and ordinance of the city.

DIVISION 2. AMENDMENTS

Sec. 5-317. Amendments to the International Mechanical Code, 2000 Edition.

The following amendments are made to the *International Mechanical Code*, 2000 Edition:

- (1) *Chapter 1, Administration.*
 - (a) *Section 102.8.* Amend by deleting the section in its entirety and adding a new Section 102.8 to read as follows:

Referenced codes and standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 which have been specifically adopted by the City, and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Where NFPA 70 or the ICC Electrical Code are referenced herein, it shall mean the corresponding provision of the *National Electrical Code* as adopted.

(2) *Chapter 3, General Regulations.*

- (a) *Section 302.3.* Amend by deleting the section in its entirety and adding a new Section 302.3 to read as follows:

Cutting, notching and boring in wood framing. When permitted by the *International Building Code*, the cutting, notching and boring of wood framing members shall comply with Sections 302.3.1 through 302.3.3.

- (b) *Section 304.5.* Amend by deleting Section 304.5 in its entirety.

- (c) *Section 304.8.* Amend by deleting the section in its entirety and adding a new Section 304.8 to read as follows:

Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending above adjoining grade a minimum of three inches (76 mm) or shall be suspended a minimum of six inches (152 mm) above adjoining grade.

- (d) *Section 304.11.* Amend by adding a new Section 304.11 to read as follows:

Minimum burial depth. Underground fuel piping systems shall be installed a minimum depth of 18 inches (458 mm) below grade.

- (e) *Section 306.3.* Amend by deleting the section in its entirety and adding a new Section 306.3 to read as follows:

Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest

appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches (559 mm) by 30 inches (762 mm) or larger where such dimensions are not large enough to allow removal of the largest appliance. As a minimum, access to the attic space shall be provided by one of the following:

1. A permanent stair;
2. A pull-down stair; or
3. An access door from an upper floor level.

Exception: The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.

- (f) *Section 306.3.1.* Amend by deleting the section in its entirety and adding a new Section 306.3.1 to read as follows:

Electrical requirements. A lighting fixture controlled by a switch located at the required passageway opening and a receptacle outlet shall be provided at or near the appliance location in accordance with IFGC. Low voltage wiring of 50 volts or less shall be installed in a manner to prevent physical damage.

- (g) *Section 306.4.1.* Amend by deleting the section in its entirety and adding a new Section 306.4.1 to read as follows:

Electrical requirements. A lighting fixture controlled by a switch located at the required passageway opening and a receptacle outlet shall be provided at or near the appliance location in accordance with the adopted electrical code. Low voltage wiring of 50 volts or less shall be installed in a manner to prevent physical damage.

- (h) *Section 306.5.* Amend by deleting the section in its entirety and adding a new Section 306.5 to read as follows:

Equipment and appliances on roofs or elevated structures. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such

access shall be provided by a permanent approved means of access. Permanent exterior ladders providing roof access need not extend closer than eight feet (2438 mm) to the finish grade or floor level below and shall extend to the equipment and appliance's level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope).

A receptacle outlet shall be provided at or near the equipment and appliance location in accordance with the *National Electrical Code* as adopted. Low voltage wiring of 50 volts or less shall be installed in a manner to prevent physical damage.

- (i) *Section 306.6.* Amend by adding a second paragraph to Section 306.6 to read as follows:

A receptacle outlet shall be provided at or near the appliance location in accordance with the *National Electrical Code* as adopted. Low voltage wiring of 50 volts or less shall be installed in a manner to prevent physical damage.

- (j) *Section 306.6.1.* Amend by adding a new Section 306.6.1 to read as follows:

Catwalk. On roofs having slopes greater than four units vertical in 12 units horizontal, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof access to the working platform at the appliance.

- (k) *Section 306.7.* Amend by adding a new Section 306.7 to read as follows:

Water heaters aboveground or floor. When the mezzanine or platform in which a water heater is installed is more than eight feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

- (l) *Section 306.7.1.* Amend by adding a new Section 306.7.1 to read as follows:

Fuel-burning appliances. Whenever the mezzanine or platform is not adequately lighted or access to a receptacle outlet is not obtainable from the main level, lighting and a receptacle outlet shall be provided in accordance with Section 306.3.1.

- (m) *Section 307.2.1.* Amend by deleting the section in its entirety and adding a new Section 307.2.1 to read as follows:

Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Condensate shall not discharge in a publicly exposed area such as into a street, alley, sidewalk or other areas so as to cause a nuisance.

- (n) *Section 307.2.2.* Amend by adding a second paragraph to Section 307.2.2 to read as follows:

Condensate waste pipes from air-cooling coils may be sized in accordance with equipment capacity as follows:

Equipment Capacity In Tons of Refrigeration	Minimum Condensate Pipe Inside Diameter
Up to 20 tons	¾ inch
Over 20 to 40 tons	1 inch
Over 40 to 90 tons	1 ¼ inch
Over 90 to 125 tons	1 ½ inch
Over 125 to 250 tons	2 inch

The size of condensate waste pipes may be for one unit or a combination of units or as recommended by the manufacturer. The capacity of waste pipes assumes a 1/8-inch-per-foot slope, with the pipe running three-quarters full.

- (o) *Section 307.2.3.* Amend by adding a new Section 307.2.3 to read as follows:

Auxiliary and secondary drain systems. Discharge, as noted, shall be to a conspicuous point of disposal to alert occupants in the event of a stoppage of the drain. However, the conspicuous point shall not create a hazard such as dripping over a walking surface or other areas so as to create a nuisance to IPC 314.2.3.

(3) *Chapter 4, Ventilation.*

- (a) *Section 401.5.* Amend by making the existing exception to Section 401.5 number "1" and adding a second exception to Section 401.5 to read as follows:

Exceptions:

1. Group R-3.

2. Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.

- (b) *Section 403.2.* Amend by adding an exception to Section 403.2 to read as follows:

Exception: Where the design professional demonstrates that an engineered ventilation system is designed in accordance with ASHRAE 62, the minimum required rate of outdoor air shall be permitted to be as specified in such engineered system design.

- (c) *Section 403.2.1.* Amend by adding a fourth exception to Section 403.2.1 to read as follows:

4. Toilet rooms within private dwellings that contain only a water closet, lavatory or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

- (d) *Table 403.3.* Amend by deleting Footnote "g" for Table 403.3 in its entirety and adding a new Footnote "g" for Table 403.3 to read as follows:

- g. Transfer air permitted in accordance with Section 403.2.2. Toilet rooms within private dwellings that contain only a water closet, lavatory or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

(4) *Chapter 5, Exhaust Systems.*

- (a) *Section 501.3.* Amend by making the existing exception to Section 501.3 number "1" and adding a second exception to Section 501.3 to read as follows:

Exceptions:

1. Whole-house ventilation-type attic fans that discharge into the attic space of dwelling units having private attics shall not be prohibited.
2. Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.

- (b) *Section 504.6.* Amend by adding a sentence to the end of the first paragraph in Section 504.6 to read as follows:

The size of duct shall not be reduced along its developed length nor at the point of termination.

- (c) *Section 504.6.1.* Amend by deleting the first paragraph in the section in its entirety and adding a new first paragraph to Section 504.6.1 to read as follows:

Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the outlet terminal with not more than two bends. When extra bends are installed, the maximum length of the duct shall be reduced 2 ½ feet (762 mm) for each 45-degree (0.79 rad) bend and five feet (1524 mm) for each 90-degree (1.6 rad) bend that occurs after the first two bends, measuring in the direction of airflow.

- (d) *Section 506.3.11.* Amend by deleting the section in its entirety and adding a new Section 506.3.11 to read as follows:

Duct enclosure. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall only penetrate exterior walls at locations where unprotected openings are permitted by the *International Building Code* requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. The enclosure shall be separated from the duct by a minimum of three inches (76 mm) and a maximum of 12 inches (305 mm) and shall serve a single grease exhaust duct system.

- (e) *Section 510.7.* Amend by making the existing exception to Section 510.7 number "1" and adding a second exception to Section 510.7 to read as follows:

Exceptions:

1. An approved automatic fire suppression system shall not be required in ducts conveying materials, fumes, mists and vapors that are nonflammable and noncombustible.
2. Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

(5) *Chapter 6, Duct Systems.*

- (a) *Section 604.1.* Amend by deleting the section in its entirety and adding a new Section 604.1 to read as follows:

General. Duct insulation shall conform to the requirements of Sections 604.2 through 604.1, Table 604.1 and the *International Energy Conservation Code*. Should there be any conflicts between this section and the energy code, the energy code shall take precedence.

(b) *Table 604.1.* Amend by adding a new Table 604.1 to read as follows:

TABLE 604.1
 INSULATION OF DUCTS

Duct Location	Insulation Types Mechanically Cooled	Heating Zone	Insulation Types Heating Only
On roof on exterior of building	C, V ² and W	I II III	A and W B and W C and W
Attics, garages and crawl spaces	A and V ²	I II III	A A B
In walls ³ , within floor-ceiling spaces ³	A and V ²	I II III	A A B
Within the conditioned space or in Basements; return ducts in air plenums	None Required		None Required
Cement slab or within ground	None Required		None Required

Note: Where ducts are used for both heating and cooling, the minimum insulation shall be as required for the most restrictive condition.

¹ Heating Degree Days:

- Zone I below 4,500 D.D.
- Zone II 4,501 to 8,000 D.D.
- Zone III over 8,000 D.D.

² Vapor retarders shall be installed on supply ducts in spaces vented to the outside in geographic areas where the summer dew point temperature based on the 2 ½ percent column of dry-bulb and mean coincident wet-bulb temperature exceeds 60°F. (15.4° C).

³ Insulation may be omitted on that portion of a duct which is located within a wall- or a floor-ceiling space where:

- ^{3.1} Both sides of the space are exposed to conditioned air.
- ^{3.2} The space is not ventilated.
- ^{3.3} The space is not used as a return plenum.
- ^{3.4} The space is not exposed to unconditioned air.

Ceilings which form plenums need not be insulated.

INSULATION TYPES ⁴:

A -- A material with an installed conductance of 0.48 [2.72 W/(m*K)] or the equivalent thermal resistance of 2.1 [0.367 (m*K)/W].

Example of materials capable of meeting the above requirements:

- 1-inch (25 mm), 0.60 lb./cu.ft. (9.6 kg/m³) mineral fiber, rock, slag or glass blankets.
- ½-inch (13 mm), 1.5 to 3 lb./cu.ft. (24 to 48 kg/m³) mineral fiber blanket duct liner.
- ½-inch (13 mm), 3 to 10 lb./cu.ft. (48 to 160 kg/m³) mineral fiber board.

B -- A material with an installed conductance of 0.24 [1.36 W/(m*K)] or the equivalent thermal resistance of 4.2 [0.735 (m*K)/W].

Example of materials capable of meeting the above requirements:

- 2-inch (51 mm), 0.60 lb./cu.ft. (9.6 kg/m³) mineral fiber blankets.

1-inch (25 mm), 1.5 to 3 lb./cu.ft. (24 to 48 kg/m³ mineral fiber blanket duct liner.

1-inch (25 mm), 3 to 10 lb./cu.ft. (48 to 160 kg/m³) mineral fiber board.

C -- A material with an installed conductance of 0.16 [0.9 W/(m*K)] or the equivalent thermal resistance of 6.3 [1.1 (m*K)/W].

Example of materials capable of meeting the above requirements:

3-inch (76 mm), 0.60 lb./cu.ft. (9.6 kg/m³) mineral fiber blankets.

1 ½-inch (38 mm), 1.5 to 3 lb./cu.ft. (24 to 48 kg/m³) mineral fiber blanket duct liner.

1 ½-inch (38 mm), 3 to 10 lb./cu.ft. (48 to 160 kg/m³) mineral fiber board.

V -- Vapor Retarders: Material with a perm rating not exceeding 0.05 perm [29 ng/Pa*s*m²]. All joints to be sealed.

W -- Approved weatherproof barrier.

⁴ The example of materials listed under each type is not meant to limit other available thickness and density combinations with the equivalent installed conductance or resistance based on the insulation only.

- (c) *Section 604.11.* Amend by deleting the section in its entirety and adding a new Section 604.11 to read as follows:

Vapor retarders. Where ducts used for cooling are externally insulated, the insulation shall be covered with a vapor retarder in accordance with Table 604.1 or aluminum foil having a minimum thickness of two mils (0.051 mm). Insulations having a permeance of 0.05 perms [2.87 ng/(Pa.s.m²)] or less shall not be required to be covered. All joints and seams shall be sealed to maintain the continuity of the vapor retarder.

- (d) *Section 607.2.2.* Amend by deleting the section in its entirety and adding a new Section 607.2.2 to read as follows:

Hazardous exhaust ducts. Hazardous exhaust duct systems shall extend directly to the exterior of the building and shall not extend into or through ducts and plenums. Penetration of structural elements shall conform to this section and the *International Building Code* except that fire dampers are not required at penetration of fire-resistance-rated assemblies.

- (e) *Section 607.5.1.* Amend by deleting the section in its entirety and adding a new Section 607.5.1 to read as follows:

Fire Walls. Ducts and transfer openings permitted in fire walls in accordance with Section 705.11 of the *International Building Code* shall be protected with approved fire dampers installed in accordance with their listing. Hazardous exhaust ducts shall not penetrate fire walls.

- (f) *Section 607.6.1.* Amend by deleting the section in its entirety and adding a new Section 607.6.1 to read as follows:

Through penetrations. In occupancies other than Groups I-2 and I-3, penetrations by an air duct through a fire-resistive-rated floor/ceiling assembly that connects not more than two stories are

permitted without shaft enclosure protection where a fire damper is installed at the floor line.

(6) *Chapter 14, Solar Systems.*

(a) *Chapter 14.* Amend by deleting Chapter 14 in its entirety.

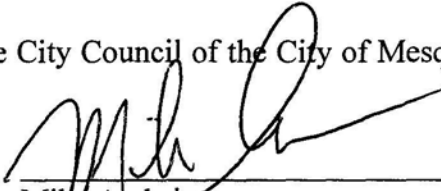
SECTION 2. That all ordinances or portions thereof in conflict with the provisions of this ordinance, to the extent of such conflict, are hereby repealed. To the extent that such ordinances or portions thereof are not in conflict herewith, the same shall remain in full force and effect.

SECTION 3. That should any word, sentence, clause, paragraph or provision of this ordinance be held to be invalid or unconstitutional, the validity of the remaining provisions of this ordinance shall not be affected and shall remain in full force and effect.

SECTION 4. That any person, firm or corporation violating any of the provisions or terms of this ordinance shall be deemed to be guilty of a Class C Misdemeanor and upon conviction in the Municipal Court shall be punished by a fine not to exceed Two Thousand (\$2,000.00) Dollars for each offense.

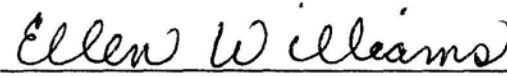
SECTION 5. That this ordinance shall take effect on April 4, 2002.

DULY PASSED AND APPROVED by the City Council of the City of Mesquite, Texas, on the 4th day of February, 2002.

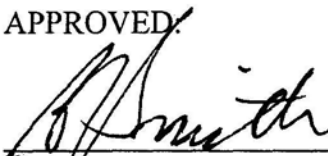


Mike Anderson
Mayor

ATTEST:



Ellen Williams
City Secretary

APPROVED:


B. J. Smith
City Attorney