Honorable President

and Members of the City Council,

Attached is an ordinance to amend Chapter 40 of the Omaha Municipal Code entitled "Mechanical" to amend code sections therein to conform with previous code changes, to amend sections 40-591, 40-592, 40-601.

Respectfully submitted,

David K. Fanslau
Planning Director

Reflected to City Council for Consideration:

Mayor's Office

Date
ORDINANCE NO. ____________

1 AN ORDINANCE to amend Chapter 40 of the Omaha Municipal Code entitled "Mechanical"; to
2 amend code sections therein to conform with previous code changes; to amend sections
3 40-591, 40-592, 40-601 as heretofore existing; and to provide the effective date thereof.
4 BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF OMAHA:
5
6 Section 1. That Sec. 40-591 of the Omaha Municipal Code is hereby amended to read
7 as follows:
8
9 Section 40-591. – International Mechanical Code – Adopted.
10
11 There is hereby adopted by the city the International Mechanical Code, 2006 2012
12 edition, as published by the International Code Council. This code shall establish rules and
13 regulations for the design, installation, maintenance, alteration, repair, relocation, replacement
14 and inspection of mechanical systems that are installed or utilized to provide control of
15 environmental conditions and regulated processes within buildings.
16
17 Sections of this code are modified, amended or deleted elsewhere in this article. Two
18 copies of the International Mechanical Code are to be retained on file with the city clerk. This
19 code shall be in effect within the limits of the city and its three-mile jurisdictional limit. (Ord. No.
20 38165, § 2, 7-15-08)
21
22 Section 2. That Sec. 40-592 of the Omaha Municipal Code is hereby amended to read
23 as follows:
24
25 Section 40-592. – Amendments to the International Mechanical Code.
26
27 The International Mechanical Code, 2006 edition, is hereby amended, altered, modified and
28 changed in the following respects:
29
30 Amend the first three sentences of Section 101.2 to read as follows:
31
32 101.2 Scope. This code shall regulate the design, installation, maintenance, alteration
33 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 National Fuel Gas Code. (Remainder of section 101.2 remains the same as written in the International Mechanical Code.)

Amend Section 101.2.1 to read as follows:

101.2.1 *Appendices. Provisions in the appendices shall not apply unless specifically adopted.

Amend Section 102.4 as follows:

Delete the second paragraph.

Amend Section 102.5 to read as follows:

102.5 Change in occupancy. It shall be unlawful to make a change in the occupancy of any structure which will subject the structure to any special provision of this code applicable to the new occupancy without approval. Changes in occupancy shall be made in accordance with the provisions of the city’s building code.

Amend Section 102.8 to read as follows:

Sec. 102.8 Referenced codes and standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and as listed elsewhere in Chapter 40 of the City of Omaha Municipal Code, and as further regulated in Sections 102.8.1 and 102.8.2. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. 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.

Amend Sections 103.2 and 103.3 as follows:

Delete Sections 103.2 and 103.3 in their entirety.

Add Section 104.1.1 to read as follows:

Sec. 104.1.1. Interpretation Authority. The code official shall have authority as necessary in the interest of public health, safety and general welfare, to interpret and implement the provisions of this code; to secure the intent thereof; and to designate requirements applicable because of local climatic or other conditions.
Amend Section 104.2 to read as follows:

104.2 Interpretation authority. The code official shall have authority as necessary in the interest of public health, safety and general welfare, to interpret and implement the provisions of this code; to secure the intent thereof; and to designate requirements applicable because of local climatic or other conditions.

Amend Section 106.3 to read as follows:

Sec. 106.3 Application for permit. Each application for a permit, with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The application shall be signed by a licensed contractor. The permit application shall indicate the proposed occupancy of all parts of the building and of that portion of the site or lot, if any, not covered by the building or structure and shall contain such other information required by the code official.

Amend Section 106.4.1 to read as follows:

Sec. 106.4.1 Reviewed construction documents. When the code official issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "REVIEWED." Such endorsed approved construction documents shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the reviewed approved construction documents.

The code official shall have the authority to issue a permit for the construction of part of a mechanical system before the construction documents for the entire system have been submitted or reviewed, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holder of such permit shall proceed at his or her own risk without assurance that the permit for the entire mechanical system will be granted.

Amend Section 106.4.2, first paragraph, as follows:

106.4.2 Validity. The issuance of a permit or review of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the jurisdiction. A permit presuming to give authority to violate or cancel the provisions of this code shall be invalid.

Amend Section 106.4.3 to read as follows:

Sec. 106.4.3 Expiration. Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by
such permit is not commenced within 180 days from the date of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work recommences, a new permit shall be first obtained and the fee, therefore, shall be the full amount required for a new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year.

If the work has commenced and been inspected by the code official or his/her designee within 180 days of the date of permit issuance, the permit shall be valid for a period of 30 months from the date of issuance.

Amend Section 106.4.4 as follows:

Delete this section in its entirety.

Amend Section 106.4.6 to read as follows:

106.4.6 Retention of construction documents. One set of construction documents shall be retained by the code official until final approval of the work covered therein. One set of reviewed construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress.

Amend Section 106.5 as follows:

Delete this section in its entirety.

Amend Section 107.1 as follows:

Delete the exception in its entirety.

Amend Section 107.2 to read as follows following:

Sec. 107.2 Exception. Ground-source heat pump loop systems tested in accordance with Sec. 1208.1.1 shall be permitted to be backfilled prior to inspection with approved documentation.

Delete Section 108.4 in its entirety and replace with the following:

Sec. 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 reviewed construction documents or directive of the code official, or of a permit or certificate issued under the provisions of this code shall be punished as provided in section 1-10 of this Code. Each day that a violation continues after due notice has been served shall be deemed a separate offense.
Amend the last sentence of Section 108.5 to read as follows:

Sec. 108.5 Stop work orders. 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 punished as provided in section 1-10 of this Code.

Amend Section 109 as follows:

Delete this section in its entirety.

Delete Section 201.3 in its entirety and replace with the following:

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

Add Section 202:

202 General Definitions:

AUTOMATIC. Automatic shall mean as a direct result of a sensing device or interlock with equipment process.

CONFINED SPACE. Any enclosed space that does not meet the space requirements for access and service as defined by this code.

CONTINUOUS VENTILATION. Mechanical ventilation that operates 24/7, year-round. Continuous operation can be used to provide local exhaust ventilation (bathroom and kitchen ventilation), as well as whole-building ventilation.

(OR) Continuous shall mean “while occupied” when referencing exhaust rates associated with occupant comfort. Continuous shall mean “24 hours a day” when referencing exhaust associated with building or process contaminants that are hazardous to occupants, persist when space is not occupied, and cannot be recirculated to other spaces (e.g., ASHRAE 62.1, Air Class 3 & 4).

CONTINUOUSLY OPERATING SYSTEM. Mechanical ventilation that operates 24/7, year-round, without the need for someone operating controls. Continuous operation can be used to provide local exhaust ventilation (bathroom and kitchen ventilation), as well as whole-building ventilation.

Examples of continuous exhaust “while occupied:”
Toilet Rooms (public/private)
Shower Rooms (public/private)
Pet Shops/Veterinary (occupied by animals or humans)
Beauty & Nail Salons
Barber Shops
Art Classrooms

Examples of continuous exhaust “24 hours a day:”
Soiled Laundry Storage Rooms
Storage Rooms, Chemical
Parking Garages (exception for automatic detection)
Refrigerating Machinery Rooms
Janitor Closets
Trash Rooms
Recycling Rooms
Indoor Firing Ranges (DOL 29 CFR 1910.1025)

ELECTRICAL CODE: The electrical code for this jurisdiction shall be Chapter 44 of the
Omaha Municipal Code and all codes adopted therein.

EMBEDMENT. Any object entirely, or partially, concealed behind a finished construction
surface that is not fully and readily accessible for service or repair.

FIRE CODE: The fire code for this jurisdiction shall be Chapter 46 of the Omaha
Municipal Code and all codes adopted therein.

FUEL GAS CODE: The fuel gas code for this jurisdiction shall be NFPA 54 as adopted
in Chapter 40 of the Omaha Municipal Code.

ICC ELECTRICAL CODE: Wherever reference is made to the ICC Electrical Code it
shall mean “Electrical Code”. See definition for “Electrical Code”.

INTERMITTENT. Intermittent shall mean a minimum of 3.5 ACH

INTERMITTENT VENTILATION. Any mechanical ventilation equipment that is not
operated continuously is considered intermittent ventilation. Intermittent ventilation rates
will always be higher than continuous ventilation rates to provide equivalent ventilation.

INTERNATIONAL ENERGY CONSERVATION CODE: Wherever reference is made to
the International Energy Conservation Code, it shall mean the International Energy
Conservation Code as adopted and amended by this jurisdiction.

INTERNATIONAL FIRE CODE: Wherever reference is made to the International Fire
Code it shall mean “Fire Code”. See definition for “Fire Code”.
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INTERNATIONAL MECHANICAL CODE: Wherever reference is made to the International Mechanical Code it shall mean Mechanical Code”. See definition for “Mechanical Code”.

INTERNATIONAL PLUMBING CODE: Wherever reference is made to the International Plumbing Code it shall mean “Plumbing Code”. See definition for “Plumbing Code”.

INTERNATIONAL PROPERTY MAINTENANCE CODE: Wherever reference is made to the International Property Maintenance Code it shall mean "Property Maintenance Code".

KITCHENETTE. A breakroom, or other similarly used room, which includes an exposed cooking surface (electric, gas or induction) that is not utilized for commercial purposes.

LICENSED CONTRACTOR. A holder of a valid master ACAD contractor license, a master ACAD contractor (residential) license for air conditioning/air distribution or a master steam/pipe fitting contractor as issued under the provisions of Chapter 40, Articles II & VII of the Omaha Municipal Code. For the purposes of this code, such license shall not be considered equivalent to a registered design professional as defined by the State of Nebraska Engineers and Architects Act.

MECHANICAL CODE: The mechanical code for this jurisdiction shall be Chapter 40 of the Omaha Municipal Code.

PLUMBING CODE: The plumbing code for this jurisdiction shall be Chapter 49 of the Omaha Municipal Code.

PORTABLE: An appliance, or equipment, which is not fixed in place. A portable appliance utilizes a cord and plug connection and, or has an integral fuel supply less than 250 gallons and is not an ASME pressurized vessel.

PROPERTY MAINTENANCE CODE: The property maintenance code for this jurisdiction shall be Chapter 48 of the Omaha Municipal Code and all codes adopted therein.

TEMPERATURE, MEAN MONTHLY OUTDOOR AIR (T_{ave}) : based on the arithmetic average of the mean daily minimum and mean daily maximum outdoor (dry-bulb) temperatures for the month in question.
VENTILATION AIR. That portion of supply air that comes from the outside (outdoors), plus any recirculated air that has been treated to maintain the desired quality of air within a designated space.

Amend Section 301.3 to read as follows:

301.3 Fuel gas appliances and equipment. The approval and installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be in accordance with the National Fuel Gas Code.

Amend Section 301.6 to read as follows:

301.6 Fuel gas appliances and equipment. The approval and installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be in accordance with the National Fuel Gas Code.

Amend Section 301.7 to read as follows:

301.7 Electrical. Electrical wiring, controls and connections to equipment and appliances regulated by this code shall be in accordance with the Chapter 44, Omaha Municipal Code and the National Electric Code adopted therein. Chapter 44, Omaha Municipal Code and the National Electric Code adopted therein shall be substituted for any and all references in this code to the ICC Electrical Code.

Amend Section 301.8 to read as follows:

301.8 Plumbing - connections. Potable water supply and building drainage system connections to equipment and appliances regulated by this code shall be in accordance with the Chapter 49 - Plumbing, Omaha Municipal Code. Chapter 49 - Plumbing, Omaha Municipal Code shall be substituted for any and all references in this code to the International Plumbing Code.

Amend Section 301.10 to read as follows:

Sec. 301.10 Electrical. Electrical wiring, controls and connections to equipment and appliances regulated by this code shall be in accordance with Chapter 44, of the Omaha Municipal Code and NFPA 70, the National Electric Code, as adopted therein. Chapter 44, of the Omaha Municipal Code and the National Electric Code adopted therein shall be substituted for any and all references in this code to the ICC Electrical Code.

Amend Section 301.11 to read as follows:

Sec. 301.11 Plumbing and connections. Potable water supply and building drainage system connections to equipment and appliances regulated by this code shall be in accordance with the Chapter 49 - Plumbing, of the Omaha Municipal Code. Chapter 49 -
Plumbing of the Omaha Municipal Code shall be substituted for any and all references in this code to the International Plumbing Code.

Amend Section 303.1 as follows:

Add the following exception:

Exception: Natural gas-fired equipment and appliances shall be located as required by NFPA 54, the Metropolitan Utilities District Rules and Regulations and the conditions of the equipment and appliance listing.

Amend Section 304.1 as follows:

Add the following exception:

Exception: Natural gas-fired equipment and appliances shall be located installed as required by NFPA 54, the Metropolitan Utilities District Rules and Regulations and the conditions of the equipment and appliance listing.

Amend Section 306.5 as follows:

Sec. 306.5 Equipment and appliances on roofs or elevated surfaces. 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 15 feet (4877 4572 mm) 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 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.

Amend Section 307.2.1 to read as follows:

Sec. 307.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlets or equipment condensate drain systems to an approved place of disposal including roof drains, service sinks, floor sinks, floor drains and other approved interior devices per the Omaha Plumbing Code. Condensate shall not discharge to the exterior of a building, into a street, alley, walkway, sidewalk, or deck, or grade.

Amend Section 401.2 as follows:

Sec. 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. Where the air infiltration rate in a dwelling unit is less than 5 7 air changes per hour when tested with a blower door at a pressure of 0.2-inch water column (50 Pa)
in accordance with Section 402.4.1.2 402.4.2.1 of the International Energy Conservation Code, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403.

Exceptions:

(1) In existing commercial and residential buildings, or portions thereof, with existing controllable exterior openings, and no change in use per Table 403.3, ventilation may continue to be provided by natural means in accordance with Section 402.

(2) In new multi-family residential dwelling units, with no fuel-gas combustion appliances, ventilation may be provided by natural means in accordance with Section 402.

(3) In new commercial buildings, or portions thereof, defined as low energy buildings in the International Energy Conservation Code, ventilation may be provided by natural means in accordance with Section 402.

(4) In new commercial buildings, or portions thereof, designed to only be occupied as open air seasonal spaces with cross ventilation, or have a maximum distance from controllable openings of 25 feet (7620 mm), ventilation may be provided by natural means in accordance with Section 402.

(5) In new commercial buildings, or portions thereof, natural ventilation may be provided where a registered design professional has designed the ventilation system for either a cross flow wind, wind tower, flue-stack or atrium-stack approach with consideration for the following criteria:

1. Size and relative locations of openings leading into and from a space to the outdoors.
2. Indoor-outdoor temperature differences where the expected occupancy occurs when the mean monthly outdoor air temperature is less than or equal to 55°F (12.8°C).
3. Wind velocity and direction.
4. Pressure relationships to adjacent spaces.
5. Diurnal and seasonal weather variations, and
6. Compatibility with occupant use.

Amend Section 402.1 to read as follows:

Sec. 402.1 Natural ventilation. Natural ventilation of an occupied space shall be through windows, doors, louvers or other openings to the outdoors. The operating mechanism for such openings shall be provided with ready access so that the openings are readily controllable by the building occupants. Natural ventilation may be provided in addition to mechanical ventilation.

Amend Table 403.3 to read as follows:

<table>
<thead>
<tr>
<th>OCCUPANCY CLASSIFICATION</th>
<th>OCCUPANT DENSITY #/1000 FT²</th>
<th>PEOPLE OUTDOOR AIREFLOW RATE IN BREATHING ZONE, Re CFM/PERSON</th>
<th>AREA OUTDOOR AIREFLOW RATE IN BREATHING ZONE, Re CFM/FT²</th>
<th>EXHAUST AIREFLOW RATE CFM/FT²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offices</td>
<td>50</td>
<td>5</td>
<td>0.12</td>
<td>0.30</td>
</tr>
<tr>
<td>Kitchensettes²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Amend Section 501.3 to read as follows:

Sec. 501.3 Exhaust discharge. The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a nuisance and not less than the distances specified in Section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic or crawl space.

Exceptions:

(1) Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics;

(2) Commercial Residential cooking recirculating systems located within dwelling units.

Amend Section 502.9.3 to read as follows:

Sec. 502.9.3 Cryogenics. Storage areas for stationary or portable containers of cryogenic fluids in any quantity shall be ventilated in accordance with Section 502.8, International Fire Code and NFPA 55. Indoor areas where cryogenic fluids in any quantity are dispensed shall provide independent emergency ventilation in accordance with the requirements of Section 502.8.4, International Fire Code and NFPA 55 in a manner that captures any vapor at the point of generation.

Exception:

Ventilation for indoor dispensing areas is not required where it can be demonstrated by a registered design professional that the cryogenic fluids do not create harmful vapors.

Amend the exceptions in Section 504.6.1 to read as follows:

Exceptions:

1. Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for such dryer are provided to the code official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions.
2. In Group B and R occupancies, clothes dryer exhaust ducts may terminate in a vertical duct enclosed by a shaft that complies with Section 607.5.5 Exceptions 1 and 2 that will exhaust heat and moisture out of the building. The following requirements apply:

2.1.1. The clothes dryer exhaust must be contained in a duct within the shaft. The duct must be constructed of corrosion resistant metal and shall have a smooth interior.

2.1.2. Duct openings into the shaft enclosure(s) shall be protected per Section 607.5.5 Exceptions 1 and 2.

2.2. Duct offsets within the shaft are prohibited.

2.3. Accessible cleanouts shall be provided at the lowest point of the shaft. Cleanout access doors shall have the same fire rating as the shaft.

2.4. The vertical dryer exhaust duct shall be protected by an automatic fire sprinkler system per NFPA 13.

2.5. Upward airflow in the vertical dryer duct shall be maintained according to Section 607.5.5 Exception 2.

2.6.1. The fan may be sized at a constant airflow equal to 50% of the sum of the listed airflows of the dryers connected to the vertical duct, OR

2.6.2. The airflow of the fan may vary based on the number of dryers operating.

2.6.3. In no case shall airflow be less than the rated airflow of the smallest connected dryer.

2.7. Dryer duct exhaust fans must allow for removal of lint and debris from both the fan and the vertical duct.

2.8. Dryer duct exhaust fans must convey lint and operate at the temperatures encountered.

2.9. Dryer duct exhaust fan motors must be located outside the air stream.

3. The maximum length of exhaust duct may be increased by use of a boost fan that is appropriately listed for clothes dryer use. The boost fan shall operate when the clothes dryer is in use.

Amend Section 506.1 to read as follows:

506.1 General. Commercial kitchen hood ventilation ducts and exhaust equipment shall comply with the requirements of this section. Type I hoods shall comply with the requirements of NFPA 96 and this section. Commercial kitchen grease ducts shall be designed for the type of cooking appliance and hood served.

Amend Section 506.3.8 to read as follows:

Sec. 506.3.8 Grease duct cleanouts and openings. Grease duct cleanouts and openings shall comply with NFPA 96 and 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) Cleanouts and openings shall be equipped with tight-fitting doors constructed of steel having a thickness not less than that required for the duct.

(4) Cleanout doors shall be installed liquid tight.
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(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 1500°F (816°C).

(7) Listed door assemblies shall be installed in accordance with the manufacturer’s instructions.

Amend Section 507.1 to read as follows:

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Type I hoods shall comply with the requirements of NFPA 96 and this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues. Commercial kitchen exhaust hood systems shall operate during the cooking operation.

Add Sections 507.2.5, 507.2.5.1, and 507.2.5.2:

Sec. 507.2.5 Domestic cooking appliances not used for commercial purposes. Domestic cooking appliances not utilized for commercial purposes shall be provided with Type I or Type II hoods as required for the type of appliance and processes in accordance with Sections 507.2, 507.2.1 and 507.2.2.

Exception:

Domestic cooking appliances not utilized for commercial purposes, and not installed in rooms with separate Type I or Type II hood systems, shall be permitted to be provided with a Type II exhaust hood with a factory-installed integrated fire suppression system in accordance with Sections 507.2.5.1 and 507.2.5.2 for the following commercial occupancies:

(1) High School Teaching Class Rooms
(2) Assisted Living Facility Training Kitchens
(3) Religious Assembly
(4) Rehabilitation Skilled Training Facilities, and
(5) Where approved by the code official.

Sec. 507.2.5.1 Type II hoods. Occupancies and spaces containing residential cooking appliances that require Type II hoods with an integrated fire suppression system shall be designed to incorporate the requirements in NFPA 96 and NFPA 17A. Systems shall be certified to LC 1031, UL300A and UL 507 standards, and the construction of the system shall be in accordance with all of the following:

(1) Constructed of stainless steel with a minimum thickness of 0.0359 inch (0.912 mm) (No. 20 gage).
(2) All components are commercial grade and shall be listed and labeled for application.
(3) Integrated temperature sensors at medium and high set points. Medium set point (155°F (74°C) turns fan on, High set point (195°F (90.5°C) disconnects appliance fuel source.
(4) Integrated appliance fuel disconnects.
(5) Fusible linkage (212-280°F (100-138°C)) to mechanically activate wet chemical fire suppression system.
(6) Low pH wet chemical fire suppression system:
   i. Minimum bottle volume of 1.5 liters.
   ii. Minimum 4 nozzle coverage at appliance.
      iii. Minimum 1 nozzle coverage at plenum.
(7) Remote manually operated pull station.
(8) Stainless steel grease vapor filter and drip pan.
(9) Integrated advanced programmable logic control (PLC) driven self-monitoring system
    with front panel indicators for loss of pressure, broken connection, tampering,
    appliance power and fan management.
(10) Internal audible alarm with fire alarm outputs to monitored fire alarm panel.
(11) Manual reset for preemptive and system failure shutdowns.
(12) Exhaust must be ducted directly to the exterior.
(13) Hood system shall have a minimum airflow of 500 cfm and shall be accounted for in
      the HVAC system design.

Sec. 507.2.5.2 Appliances and Ductwork. Residential appliances and the ductwork serving
the hood system shall be installed in accordance with the manufacturer's specifications,
applicable listings and the following requirements:
(1) Residential cooking appliances shall not exceed 36 inches.
(2) Only one residential cooking appliance and Type II hood system with an integrated
    fire suppression system is permitted per room.
(3) Exhaust ductwork shall be constructed of steel having a minimum thickness of
    0.0220 inch (0.5550 mm) (No. 24 gage).
(4) Exhaust ductwork shall be constructed with continuous liquid tight joints, seams and
    penetrations.
(5) Exhaust duct termination shall comply with Section 506.4.2 for Type II hoods.
(6) Connection between hood and ductwork is permitted to be by an approved high
    temperature gasket in accordance with Section 506.3.2.3.
(7) Clearance between the cooking surface and the bottom of the hood shall not exceed
    26 inches.
(8) A key-locked switch shall be provided to deactivate cooking appliances when staff
    members are not present. The switch shall be on an automatic timer to
    independently deactivate the cooking appliance and shall have a maximum capacity
    of 120 minutes, at which point the entire system will power down and require manual
    reset.

Amend Section 509.1 to read as follows:

509.1 Where required. Commercial cooking appliances required by Section 507.2.1 to
have a Type I hood shall be provided with an approved automatic fire suppression
system complying with NFPA, the International Building Code and the International Fire
Code.

Amend Section 512.2 to read 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 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.

Amend Section 603.6.1.1 to read as follows:

603.6.1.1 Duct length. Flexible air ducts shall not be permitted except as final connectors to equipment or outlets.

Amend Section 603.6.2.1 to read as follows:

603.6.2.1 Connector length. Flexible air connectors shall be limited in length to 6 feet with no change in direction greater than 45 degrees.

Amend the last sentence of Section 603.17 to read as follows:

Each volume damper or other means of supply air adjustment used in balancing shall be provided with access for adjustment.

Add Section 603.8.1:

Sec. 603.8.1 Slope. Ducts shall have a minimum slope of 1/8 inch per foot (10.4 mm/m) to allow drainage to a point provided with approved access.

Delete Section 701.1 in its entirety and replace with the following:

Sec. 701.1 Scope. Solid fuel-burning appliances shall be provided with combustion air in accordance with the appliance manufacturer's installation instructions. Oil-fired appliances shall be provided with combustion air in accordance with NFPA 31. The methods of providing combustion air in this chapter do not apply to fireplaces, fireplace stoves and direct-vent appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with the International Fuel Gas Code and NFPA 58.

Amend Section 801.1 to read as follows:

Sec. 801.1 Scope. This chapter shall govern the installation, maintenance, repair and approval of factory-built chimneys, chimney liners, vents and connectors. This chapter shall also govern the utilization of masonry chimneys. Gas-fired appliances shall be vented in accordance with the National Fuel Gas Code, NFPA and Metropolitan Utilities District Rules and Regulations.

Amend 804.3.3 to read as follows:
804.3.3 Termination. The termination of chimneys or vents equipped with power exhausters shall be located a minimum of 10 feet (3048 mm) from the property line of a lot that can be built upon and from adjacent buildings. The exhaust shall be directed away from the building.

Amend Section 901.1 to read as follows:

Sec. 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 National Fuel Gas Code, NFPA and Metropolitan Utilities District Rules and Regulations.

Amend Section 906.1 to read 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 the National Fuel Gas Code, NFPA and Metropolitan Utilities District Rules and Regulations.

Amend Section 907.1 to read as follows:

Sec. 907.1 General. Commercial incinerators shall be listed and labeled in accordance with UL 2790. Residential incinerators shall be listed and labeled in accordance with UL 791. Commercial incinerators and residential incinerators shall be installed in accordance with the manufacturer's installation instructions.

Amend Section 908.7 to read as follows:

908.7 Refrigerants and hazardous fluids. Heat exchange equipment that contains a refrigerant and that is part of a closed refrigeration system shall comply with Chapter 11. Heat exchange equipment containing heat transfer fluids which are flammable, combustible or hazardous shall comply with NFPA and the International Fire Code.

Amend Section 916.1 to read as follows:

Sec. 916.1 General. Pool and spa heaters shall be installed in accordance with Chapter 49, Omaha Municipal Code, the Nebraska Boiler Act and the manufacturer's installation instructions. Oil-fired pool and spa heaters shall be tested in accordance with UL 726. Electric pool and spa heaters shall be tested in accordance with UL 1261.

Amend Section 916.3 as follows:

Add the following exception at the end of Section 916.3:
Exception: The total area of the supply air ducts and outdoor and return air ducts shall not be required to be larger than the minimum size required by the heat pump manufacturer's installation instructions.

Amend Section 926.1 to read as follows:

Sec. 926.1 Installation. The installation of gaseous hydrogen systems shall be in accordance with the applicable requirements of this code, the International Fire Code, the National Fuel Gas Code, NFPA, Metropolitan Utilities District Rules and Regulations, and the International Building Code.

Amend Section 1000.1 to read as follows:

Delete all exceptions to Section 1001.1.

Amend Section 1002.1 to read as follows:

Sec. 1002.1 General. Potable water heaters and hot water storage tanks shall be listed and labeled and installed in accordance with the Nebraska Boiler Act, ASME Sections 4 or 8, the manufacturer's installation instructions, and this code. All water heaters shall be capable of being removed without first removing a permanent portion of the building structure or in-service mechanical equipment. The potable water connections and relief valves shall conform to the requirements of the Nebraska Boiler Act, ASME Sections 4 or 8. Domestic electric water heaters shall comply with the Nebraska Boiler Act, ASME Section 4, NFPA 70 and UL 174 or UL 1453. Commercial electric water heaters shall comply with the Nebraska Boiler Act, ASME Section 4, NFPA 70 and UL 1453. Domestic electric water heaters shall comply the Nebraska Boiler Act, ASME Section 4, NFPA 31 and 30 and UL 732.

Exception:

Listed and approved potable water heaters operating:

1) Under 200,000 Btu/hr input or,
2) Under 150 psi or
3) Under 210 degrees F or,
4) Under 120 gallons.

Amend Section 1002.2 to read as follows:

Sec. 1002.2 Water heaters utilized for space heating. All vessels used for space heating will be constructed to the minimum standards of ASME. The vessel must bear an ASME "H" or "S" stamping.

Amend Section 1002.3 to read as follows:

Sec. 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 Nebraska Boiler Act, ASME Sections 4 or 8, and the manufacturer's installation instructions.
Amend Section 1003.1 to read as follows:

Sec. 1003.1 General. All pressure vessels shall bear the ASME Code stamping and be manufactured to the requirements of ASME Section 8 Divisions 1, 2, and 3 or Section 10, and shall be installed in accordance with the State Boiler Act and the manufacturer's installation instructions.

Amend Section 1003.3 to read as follows:

Sec. 1003.3 Welding. Welding on pressure vessels shall be performed by a current holder of a National Board "R" Stamp certificate.

Amend Section 1004.1 to read as follows:

Sec. 1004.1 Standards. Oil-fired boilers and their control systems shall be listed and labeled in accordance with UL 726, the Nebraska Boiler Act, ASME Section 1, or Section 4, ASME CSD-1, NFPA 30, and 31. Electric boilers and their control systems shall be listed and labeled in accordance with UL 834 the Nebraska Boiler Act, ASME Section 1, or Section 4, ASME CSD-1, NFPA 70. All boilers shall be designed and constructed in accordance with the requirements of ASME CSD-1, ASME Boiler and Pressure Vessel Code, Sections I, II, IV, V and IX; NFPA 85.

Amend Section 1004.2 to read as follows:

Sec. 1004.2 Installation. In addition to the requirements of this code, the installation of boilers shall conform to the Nebraska Boiler Act, ASME Sections 1 and 4, the authority having jurisdiction and the manufacturer's installation instructions. Operating instructions of a permanent type shall be attached to the boiler. Boilers shall have all controls set, adjusted and tested by the installer. The manufacturer's rating data reports, CSD-1 reports, and the nameplate shall be attached to the boiler.

Amend Section 1004.3 to read as follows:

Sec. 1004.3 Working clearance. Clearances shall be maintained around boilers, generators, heaters, tanks, and related equipment and appliances so as to permit inspection, servicing, repair, replacement and visibility of all gauges. When boilers are installed or replaced, clearance shall be provided to allow access for inspection, maintenance and repair. Passageways around all sides of boilers shall have an unobstructed width of not less the 48 36 inches (457 914 mm) unless otherwise approved by the Nebraska Boiler Act or allowed by the authority having jurisdiction.

Amend Section 1004.4 to read as follows:

Sec. 1004.4 Mounting. Equipment shall be set or mounted on a level base capable of supporting and distributing the weight contained thereon. Boilers, tanks and equipment
shall be secured in accordance with the Nebraska Boiler Act, ASME, the authority
having jurisdiction and the manufacturer's installation instructions.

Amend Section 1005.1 to read as follows:

Sec. 1005.1 Valves. Every boiler or modular boiler shall have a positive shutoff valve in
the supply and return piping. For multiple boiler or multiple modular boiler installations,
each boiler or modular boiler shall have individual shutoff valves in the supply and return
piping.

Amend Section 1005.2 to read as follows:

Sec. 1005.2 Potable water supply. The water supply to all boilers shall be connected in
accordance with the Omaha Plumbing Code and the rules and regulations of the
Metropolitan Utilities District.

Amend Section 1006.6 to read as follows:

Sec. 1006.6 Safety and relief valves 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 discharge to the outside
of the structure. Where a low-pressure safety valve or a relief valve discharges to
drainage system, the installation of said drainage system shall comply conform to the
Omaha Plumbing Code.

Amend Section 1006.9 to read as follows:

Sec. 1006.9 Safety and pressure relief valves and controls. All safety valves, safety relief
valves, boiler safety devices, controls, and electrical requirements shall be listed and
labeled for their appropriate use and conditions. The installation of all safety and
pressure relief valves, and controls shall comply with the Nebraska Boiler Act, ASME
Boiler and Pressure Code Sections: I, VI, VIII Div. 1, 2, 3, X, CSD-1, the authority having
jurisdiction and the manufacturer's installation instructions.

Amend Section 1007.1 to read as follows:

Sec. 1007.1 General. All steam and hot water boilers shall be protected with a low-water
cutoff control as required by the Nebraska Boiler Act, ASME Sections I, IV, and CSD-1.

Amend Section 1008.2 to read as follows:

Sec. 1008.2 Discharge. Blow off or blow down valves shall discharge to a safe place of
disposal. Where discharging to the drainage system, the installation shall conform to the
Omaha Plumbing Code.
Amend Section 1009.3 to read as follows:

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

Amend Condition 6 of Section 1104.2.2, to read as follows:

6. All electrical equipment and appliances conform to Class 1, Division 2, hazardous location classification requirements of NFPA 70 where the quantity of any Group A2, B2, A3 or B3 refrigerant, other than ammonia, in a single independent circuit would exceed 25 percent of the lower flammability limit (LFL) upon release to the space.

Amend Section 1201.1 to read as follows:

Sec. 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, condenser water, and ground source heat pump loop systems. Potable cold and hot water distribution systems shall be installed in accordance with the Omaha Plumbing Code.

Amend Section 1202.4 to read as follows:

Sec. 1202.4 Piping materials and standards: Hydronic piping shall conform to the standards listed in Table 1202.4 and Table 1202.5 as amended by this section. The exterior of the pipe shall be protected from corrosion and degradation. Approved piping, valves, fittings and connections shall be installed in accordance with the installations instructions. Pipe and fittings shall be rated for use at the operating temperature and pressure of the hydronic system. Acrylonitrile butadiene styrene pipe, tubing, and fittings (ABS), Chlorinated poly vinyl chloride (CPVC) pipe, tubing and fittings, Cross-linked polyethylene (PEX) pipe, tubing and fittings, Cross-linked polyethylene/aluminum/ cross-linked polyethylene (PEX-AL-PEX) pipe, tubing and fittings, Polybutylene (PB) pipe, tubing and fittings, Polyethylene (PE) pipe, tubing and fittings, Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe, tubing and fittings, Raised temperature polyethylene (PE-RT) pipe, tubing and fittings and Polypropylene (PP) pipe, tubing and fittings Polyvinyl chloride (PVC) pipe, tubing and fittings, will not be permitted for above ground use in a hydronic heating or cooling system. Except as otherwise acceptable to the authority having jurisdiction.

Amend Section 1202.5 as follows:
Delete Section 1202.5 in its entirety (reference Section 1202.4)

Amend Section 1205.2 to read as follows:

Sec. 1205.2 Reduced pressure. A pressure relief valve shall be installed on the low-pressure side of a hydronic piping system that has been reduced in pressure. The relief valve shall be set at no greater than the lowest rated design pressure of any component installed downstream of the pressure reducing valve. The valve shall be installed in accordance with Section 1006.

Amend Section 1208.1.1 to read as follows:

1208.1.1 Ground source heat pump loop systems. Before connection (header) trenches are backfilled, the assembled loop system shall be pressure tested with water at 100 psi (689kPa) for 30 minutes with no observed leaks.

Amend Section 1209.5 to read as follows:

1209.5 Termination: Final termination of all embedded piping systems is required to terminate to listed and labeled equipment or to a piping manifold. The maximum length from piping system entering the structure to equipment or manifold is 48 inches (1219mm).

Delete Chapter 13 in its entirety and replace with the following: Fuel Oil Piping and Storage:

Chapter 13: Fuel Oil Piping and Storage Systems

Sec. 1301.1 Scope. The design, installation, construction and repair of fuel oil piping and storage systems must comply with the requirements of NFPA 30, 30A, 31, and 37. State of Nebraska Title 159, Omaha Municipal Code, the International Fire Code and the International Building Code.

Amend Section 1401.2 to read as follows:

Sec. 1401.2 Potable water supply. Potable water supplies to solar systems shall be protected against contamination in accordance with the International Omaha Plumbing Code.

Section 3. That Article X Sec. 40-601 are hereby adopted and incorporated as fully as if set out at length:

Article X Sec. 40-601 Standards adopted.

1. National Fire Protection Association (NFPA)*.

22 Water Tanks for Private Fire Protection—2018.
59A Liquefied Natural Gas (LNG)—2016.
ORDINANCE NO. ____________
Page 23

1. 86 Ovens and Furnaces - 2019.
2. 87 Fluid Heaters – 2018.
17. 329 Handling Releases of Flammable and Combustible Liquids and Gases -2015.

2. American Society of Mechanical Engineers (ASME).
   a. Boilers and Pressure Vessels, Piping, Controls and Safety Devices Codes: ASME Boiler-and-Pressure-Vessel Code:
      1. Section I Power Boilers
      2. Section II Materials of Construction
      3. Section IV Heating Boilers
      4. Section V Nondestructive Examination
      5. Section VIII Pressure Vessels
      6. Section IX Welding, Brazing, and Fusing Qualifications
      7. Section X Fiber Reinforced Plastic Pressure Vessels
   b. Building Services Piping B31.9
      Refrigeration Piping B31.5
      Power Piping B31.1
ORDINANCE NO. __________

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1. Process Piping B31.3
2. CSD-1. Controls and Safety Devices for Automatically Fired Boilers CSD-1-ASME
3. National Board Inspection Code
4. Nebraska State Boiler Act

Section 4. This Ordinance shall be in full force and take effect 15 days from and after
the date of its passage.

INTRODUCED BY COUNCILMEMBER

_________________________________________  APPROVED BY:

_________________________________________  MAYOR OF THE CITY OF OMAHA DATE

PASSED _________________________________

ATTEST:

_________________________________________  CITY CLERK OF THE CITY OF OMAHA DATE

APPROVED AS TO FORM:

_________________________________________  ASSISTANT CITY ATTORNEY DATE

2/21/17