ORDINANCE NO. _____

An ordinance amending Chapter 54, "Dallas Plumbing Code," of the Dallas City Code, as amended; adopting with certain changes the 2021 Edition of the International Plumbing Code of the International Code Council, Inc.; regulating the construction, enlargement, alteration, repair, use, and maintenance of plumbing work in the city; providing a penalty not to exceed $2,000; providing a saving clause; providing a severability clause; and providing an effective date.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

SECTION 1. That Chapter 54, "Dallas Plumbing Code," of the Dallas City Code, as amended, is amended by adopting the 2021 Edition of the International Plumbing Code of the International Code Council, Inc. (which is attached as Exhibit A and made a part of this ordinance), with the following amendments:

1. Chapter 1, "Scope and Administration," of the 2021 International Plumbing Code is deleted and replaced with a new Chapter 1, "Administration," to read as follows:

"**CHAPTER 1**
**ADMINISTRATION**

**SECTION 101**
**GENERAL**

**101.1 Title.** These regulations are known as the *Dallas Plumbing Code*, hereinafter referred to as "this code."

**101.2 Scope.** The provisions of this code apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code also regulates nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems, sanitary and condensate vacuum collection systems. The

installation of fuel gas distribution piping and equipment, fuel gas-fired water heaters and water heater venting systems are regulated by the *Dallas Fuel Gas Code.*

**Exceptions:**

1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures must comply with the *Dallas One- and Two-Family Dwelling Code.*

2. Plumbing systems in existing buildings undergoing repair, alteration, or additions, and change of occupancy may comply with the *Dallas Existing Building Code.*

**101.3 Administrative procedures.** Except as otherwise specified in this code, all provisions of Chapter 52, "Administrative Procedures for the Construction Codes," of the *Dallas City Code* apply to this code.

**101.4 Referenced codes and standards.** The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference only when such codes and standards have been specifically adopted by the city of Dallas. 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. Any reference made to NFPA 70 or the *ICC Electrical Code* means the *Dallas Electrical Code*, as adopted. References made to the *International Building Code*, the *International Energy Conservation Code*, the *International Existing Building Code,* the *International Fire Code*, the *International Fuel Gas Code*, the *International Mechanical Code*, the *International Plumbing Code*, the *International Residential Code*, the *International Green Construction Code*, and the *International Swimming Pool and Spa Code*, respectively mean the *Dallas Building Code*, the *Dallas Energy Conservation Code*, the *Dallas Existing Building Code*, the *Dallas Fire Code*, the *Dallas Fuel Gas Code*, the *Dallas Mechanical Code*, the *Dallas Plumbing Code*, the *Dallas One- and Two-Family Dwelling Code*, the *Dallas Green Construction Code*, and the *Dallas Swimming Pool and Spa Code*, as amended."

2. Subsection 301.6, "Prohibited Locations," of Section 301, "General," of Chapter 3,

"General Regulations," of the 2021 International Plumbing Code is amended to read as follows:

**"301.6 Prohibited locations.** No plumbing system, waste disposal system, gas distribution system, rainwater piping system, irrigation system, medical gas & vacuum system, or parts thereof, shall be located on any lot other than a specific lot or building site as defined by Chapter 51A of the *Dallas Development Code*. Piping, fixtures, or equipment shall not be located as to interfere with the normal use thereof or the normal operation and use of any required windows, doors, or other facilities. Plumbing systems shall not be located in an elevator shaft or in an elevator equipment room.

**Exception:** Floor drains, sumps and sump pumps shall be permitted at the base of the shaft, provided that they are indirectly connected to the plumbing system and comply with Section 1003.4."

3. Paragraph 305.4.1, "Sewer Depth," of Subsection 305.4, "Freezing," of Section 305, "Protection of Pipes and Plumbing System Components," of Chapter 3, "General Regulations," of the 2021 International Plumbing Code is amended to read as follows:

"**305.4.1 Sewer depth. [**~~*Building sewers* that connect to private sewage disposal systems shall be installed not less than **[NUMBER]** inches (mm) below finished grade at the point of septic tank connection.~~] *Building sewers* shall be a minimum of 12 [~~installed not less than **[NUMBER]**~~] inches (304 mm) below grade."

4. Subsection 401.1, "Scope," of Section 401, "General," of Chapter 4, "Fixtures, Faucets and Fixture Fittings," of the 2021 International Plumbing Code is amended to read as follows:

"**401.1 Scope.** This chapter shall govern the materials, design and installation of plumbing fixtures, faucets and fixture fittings in accordance with the type of *occupancy*, and shall provide for the minimum number of fixtures for various types of occupancies. The provisions of this chapter are intended to work in coordination with the provisions of the *Dallas Building Code*. Should any conflicts arise between the two chapters, the building official shall determine which provision applies."

5. Subsection 403.1, "Minimum Number of Fixtures," of Section 403, "Minimum Plumbing Facilities," of Chapter 4, "Fixtures, Faucets and Fixture Fittings," of the 2021 International Plumbing Code is amended to read as follows:

"**403.1 Minimum number of fixtures.** Plumbing fixtures shall be provided for the type of *occupancy* and in the minimum number as follows:

1. **Assembly occupancies.** At least one drinking fountain must be provided at each floor level in an approved location.

   **Exception:** A drinking fountain need not be provided in a drinking or dining establishment.

2. **Group A, B, F, H, I, M and S occupancies.** Buildings, tenant spaces or portions of buildings where persons are employed must be provided with at least one water closet for each sex as provided for in Section 403.2.

3. **Group E and R occupancies.** Fixtures must be provided as shown in Table 403.1

It is recommended, but not required, that the minimum number of fixtures provided also comply with the number shown in Table 403.1. [~~, based on the actual use of the building or space~~]. Uses not shown in Table 403.1 shall be considered individually by the building [~~code~~] official. The number of occupants shall be determined by the *Dallas* [~~*International*~~] *Building Code*. *Occupancy* classification shall be determined in accordance with the *Dallas Building Code*.

**403.1.1 Fixture calculations.** To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple *occupancies*, such fractional numbers for each *occupancy* shall first be summed and then rounded to the next whole number.

**Exceptions:**

1. The total occupant load shall not be required to be divided in half where *approved* statistical data indicate a distribution of the sexes of other than 50 percent of each sex.

2. Where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multiple-user facilities, each fixture type shall be in accordance with ICC A117.1 and each urinal that is provided shall be located in a stall.

3. Distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 403.1.2.

**403.1.2 Single-user toilet facility and bathing room fixtures.** The plumbing fixtures located in single-user toilet facilities and bathing rooms, including family or assisted-use toilet and bathing rooms that are required by Section 1109.2.1 of the *Dallas [~~International~~] Building Code*, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified as being available for use by all persons regardless of their sex.

The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or separate facilities.

**403.1.3 Lavatory distribution.** Where two or more toilet rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets."

6. Subsection 413.4, "Public Laundries and Central Washing Facilities," of Section 413, "Floor and Trench Drains," of Chapter 4, "Fixtures, Faucets and Fixture Fittings," of the 2021 International Plumbing Code is deleted and replaced as follows:

"**413.4 Required location for floor drains.** Floor drains shall be required in the following locations:

1. In public coin-operated laundries and in the central washing facilities of multiple-family dwellings, the rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such drains shall have a minimum outlet of not less than 3 inches (76 mm) in diameter.

2. Food establishments as defined by Chapter 17 of the *Dallas City Code*.

3. Public restrooms."

7. Section 502, "Installation," of Chapter 5, "Water Heaters," of the 2021 International Plumbing Code is amended by adding a new Subsection 502.6, "Water Heaters Above Ground or Floor," to read as follows:

"**502.6 Water heaters above ground or floor.** When the attic, roof, mezzanine or platform in which a water heater is installed is more than 8 feet (2438 mm) above the ground or floor level, it must be made accessible by a stairway or permanent ladder fastened to the building.

**Exception:** A water heater may be reached by portable ladder if the water heater has a capacity of no more than 10 gallons (or larger with prior approval), it is capable of being accessed through a lay-in ceiling, and it is installed not more than 10 feet (3048 mm) above the ground or floor level.

**502.6.1. Illumination and convenience outlet.** Whenever the attic, roof, 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 must be provided in accordance with the *Dallas Electrical Code*."

8. Subsection 504.6, "Requirements for Discharge Piping," of Section 504, "Safety Devices," of Chapter 5, "Water Heaters," of the 2021 International Plumbing Code is amended to read as follows:

"**504.6 Requirements for discharge piping.** The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.

2. Discharge through an *air gap* [~~located in the same room as the water heater~~].

3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the *air gap*.

4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   **Exception:** Multiple relief devices may be installed to a single T&P discharge piping system when approved by the building official and permitted by the manufacturer's installation instructions and installed pursuant to those instructions.

5. Discharge by indirect means, to an approved location [~~the floor, to the pan serving the water heater or storage tank,~~], to a waste receptor or to the outdoors.

6. Discharge in a manner that does not cause personal injury or structural damage.

7. Discharge to a termination point that is readily observable by the building occupants.

8. Not be trapped.

9. Be installed so as to flow by gravity.

10. Terminate not more than 6 inches (152 mm) above and not less than two times the discharge pipe diameter above the [~~floor or~~] *flood level rim* of the waste receptor.

11. Not have a threaded connection at the end of such piping.

12. Not have valves or tee fittings.

13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

14. Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharging piping is installed with insert fittings. The outlet end of such tubing shall be fastened in place."

9. Paragraph 504.7.1, "Pan Size and Drain," of Subsection 504.7, "Required Pan," of Section 504, "Safety Devices," of Chapter 5, "Water Heaters," of the 2021 International Plumbing Code is amended to read as follows:

**"504.7.1 Pan size and drain.** The pan shall be not less than 1 ½ inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than ¾ inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4.

**Exception:** Multiple pan drains may terminate to a single discharge piping system when *approved* by the administrative authority and permitted by the water heater's manufacturer installation instructions and installed according to manufacturer's instructions."

10. Subsection 602.3, "Individual Water Supply," of Section 602, "Water Required," of Chapter 6, "Water Supply and Distribution," of the 2021 International Plumbing Code is deleted.

11. Subsection 604.4, "Maximum Flow and Water Consumption," of Section 604, "Design of Building Water Distribution System," of Chapter 6, "Water Supply and Distribution," of the 2021 International Plumbing Code is amended by adding a new Paragraph 604.4.1, "State Maximum Flow Rate," to read as follows:

"**604.4.1 State maximum flow rate.** Where the state-mandated maximum flow rate is more restrictive than those of this section, the state flow rate takes precedence."

12. Subsection 606.1, "Location of Full-Open Valves," of Section 606, "Installation of the Building Water Distribution System," of Chapter 6, "Water Supply and Distribution," of the 2021 International Plumbing Code is amended to read as follows:

"**606.1 Location of full-open valves.** *Full-open valves* shall be installed in the following locations:

1. [~~On the building water service pipe from the public water supply near the curb.~~

~~2.~~] On the water distribution supply pipe at the entrance into the structure.

1.1[~~2.1~~]. In multiple-tenant buildings, where a common water supply piping system is installed to supply other than one- and two-family dwellings, a main shutoff valve shall be provided for each tenant.

[~~3. On the discharge side of every water meter.~~

~~4. On the base of every water riser pipe in occupancies other than multiple-family residential *occupancies* that are two stories or less in height and in one- and two-family residential *occupancies*.~~

~~5. On the top of every water down-feed pipe in *occupancies* other than one- and two-family residential *occupancies*.~~]

2[~~6~~]. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.

3[~~7~~]. On the water supply pipe to a gravity or pressurized water tank.

4[~~8~~]. On the water supply pipe to every water heater."

13. Subsection 606.2, "Location of Shutoff Valves," of Section 606, "Installation of the Building Water Distribution System," of Chapter 6, "Water Supply and Distribution," of the 2021 International Plumbing Code is amended to read as follows:

"**606.2 Location of shutoff valves.** Shutoff valves shall be installed in the following locations:

1. On the fixture supply to each plumbing fixture other than bathtubs and showers, or similar type valves, in one- and two-family residential *occupancies*, and other than in individual sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar *occupancies*.

2. [~~On the water supply pipe to each sillcock.~~

~~3.~~] On the water supply pipe to each appliance or mechanical equipment."

14. Paragraph 608.17.5, "Connections to Lawn Irrigations Systems," of Subsection 608.17, "Connections to the Potable Water System," of Section 608, "Protection of Potable Water Supply," of Chapter 6, "Water Supply and Distribution," of the 2021 International Plumbing Code is amended to read as follows:

"**608.17.5 Connections to lawn irrigation systems.** The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric vacuum breaker, a pressure vacuum breaker assembly, a double-check assembly or a reduced pressure principle backflow prevention assembly. Valves shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow prevention

assembly and all piping installation and identification shall comply with the requirements of Section 608.9 of the *Dallas Plumbing Code*."

15. Subsection 608.18, "Protection of Individual Water Supplies," of Section 608, "Protection of Potable Water Supply," of Chapter 6, "Water Supply and Distribution," of the 2021 International Plumbing Code is deleted.

16. Section 712, "Sumps and Ejectors," of Chapter 7, "Sanitary Drainage," of the 2021 International Plumbing Code is amended by adding a new Subsection 712.5, "Dual Pump System," to read as follows:

"**712.5 Dual pump system.** All sumps must be automatically discharged and, when in any "public use" occupancy where the sump serves more than 10 fixture units, must be provided with dual sumps or ejectors arranged to function independently in case of overload or mechanical failure. For storm drainage sumps and pumping systems, see Section 1113."

17. Section 713, "Computerized Drainage Design," of Chapter 7, "Sanitary Drainage," of the 2021 International Plumbing Code is retitled as Section 713, "Engineered Drainage Design."

18. Subsection 713.1, "Design of Drainage System," of Section 713, "Engineered Drainage Design," of Chapter 7, "Sanitary Drainage," of the 2021 International Plumbing Code is amended to read as follows:

"**713.1 Design of drainage system.** The sizing, design and layout of the drainage system shall be permitted to be designed by a registered engineer using *approved* [~~computer~~] design methods."

19. Subsection 802.1, "Where Required," of Section 802, "Indirect Wastes," of Chapter 8, "Indirect/Special Waste," of the 2021 International Plumbing Code is amended to read as follows:

**"802.1 Where required.** Food-handling equipment, in other than dwelling units, clear-water waste, humidifiers, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.7. Fixtures not required to be indirectly connected by this section and the exception to Section 301.6 shall be directly connected to the plumbing system in accordance with Chapter 7.

**802.1.1 Food handling.** Equipment and fixtures utilized for the storage, preparation and handling of food shall discharge through an indirect waste pipe by means of an *air gap* into a floor sink sized in accordance with Section 802.4.1. [~~Each well of a multiple-compartment sink shall discharge independently to a waste receptor~~.]

**802.1.2 Floor drains in floor storage areas.** Floor drains located within walk-in refrigerators or freezers in food service and food establishments shall be indirectly connected to the sanitary drainage system by means of an *air gap* into a floor sink sized in accordance with Section 802.4.1. Where a floor drain is located within an area subject to freezing, the waste line serving the floor drain shall not be trapped and shall indirectly discharge by means of an *air gap* into a floor sink sized in accordance with Section 802.4.1, and [~~waste receptor~~] located outside the area subject to freezing.

[~~**Exception:** Where protected against backflow by a backwater valve, such floor drains shall be indirectly connected to the sanitary drainage system by means of an *air break* or an *air gap*.~~]

**802.1.3 Potable clear-water waste.** Where devices and equipment, such as sterilizers and relief valves, discharge potable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an *air gap*.

**802.1.4 Swimming pools.** Where wastewater from swimming pools, backwash from filters and water from pool deck drains discharge to the building drainage system, the discharge shall be through an indirect waste pipe by means of an *air gap*.

**802.1.5 Nonpotable clear-water waste.** Where devices and equipment such as process tanks, filters, drips and boilers discharge nonpotable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an *air break* or an *air gap*.

**802.1.6 Commercial dishwashing machines.** The discharge from a commercial dishwashing machine shall be through an *air gap* [~~or *air break*~~] into a floor sink [~~waste receptor~~] in accordance with Section 802.3.

**802.1.7 Food utensils, dishes, pots and pans sinks.** Sinks and equipment, in other than dwelling units, used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an *air gap* into a floor sink sized in accordance with Section 802.4.1 [~~or an *air break* to the drainage system~~]."

20. Paragraph 802.4.3, "Standpipes," of Subsection 802.4, "Waste Receptors," of Section 802, "Indirect Wastes," of Chapter 8, "Indirect/Special Waste," of the 2021 International Plumbing Code is amended to read as follows:

"**802.4.3 Standpipes.** Standpipes shall be individually trapped. Standpipes shall extend not less than 18 inches (457 mm) but not greater than 42 inches (1067 mm) above the trap weir. *Access* shall be provided to all standpipes and drains for rodding. No trap serving a standpipe may be installed below the floor.

**802.4.3.1 Connection of laundry tray to standpipe.** As an alternative for a laundry tray fixture connecting directly to a drainage system, a laundry tray waste line without a fixture trap shall connect to a standpipe for an automatic clothes washer drain. The standpipe shall extend not less than 30 inches (762 mm) above the weir of the standpipe trap and shall extend above the *flood level rim* of the laundry tray. The outlet of the laundry tray shall not be greater than 30 inches (762 mm) horizontal distance from the side of the standpipe."

21. Paragraph 903.1.1, "Roof Extension Unprotected," of Subsection 903.1, "Vent Terminal Required," of Section 903, "Vent Terminals," of Chapter 9, "Vents," of the 2021 International Plumbing Code is amended to read as follows:

"**903.1.1 Roof extension unprotected.** Open vent pipes that extend through a roof shall be terminated not less than 6 [~~[~~**NUMBER**~~]~~] inches (152 mm) above the roof."

22. Subparagraph 903.1.5, "Vents Above Grade," Paragraph 903.1.1, "Roof Extension Unprotected," of Subsection 903.1, "Vent Terminal Required," of Section 903, "Vent Terminals," of Chapter 9, "Vents," of the 2021 International Plumbing Code is amended to read as follows

"**903.1.5 Vents above grade.** Open vent pipes above grade and adjacent to a structure, shall meet the requirements of Section 903.5 and terminate not less than 10 feet (3048 mm) above grade. Remote vents must terminate no less than 6 inches (152 mm) above grade."

23. Subsection 905.4, "Vertical Rise of Vent," of Section 905, "Vent Connections and Grades," of Chapter 9, "Vents," of the 2021 International Plumbing Code is amended to read as follows:

**"905.4 Vertical rise of vent.** Every dry vent shall rise vertically to a point not less than 6 inches (152 mm) above the *flood level rim* of the highest trap or trapped fixture being vented.

**Exceptions:**

1. Vents for interceptors located outdoors.

2. Where structural conditions prohibit the vent to rise 6 inches (152 mm), before offsetting horizontally, and whenever multiple vent pipes converge, each such vent shall rise 6 inches (152 mm) in height above the flood level rim of the fixture it serves before connecting to any other vent. Vents less than 6 inches (152 mm) above the flood level rim of the fixture shall comply with Sections 905.2 and 905.3 and they shall have a full size cleanout installed on the vent stack in an accessible location."

24. Subsection 915.1, "Type of Fixtures," of Section 915, "Combination Waste and Vent System," of Chapter 9, "Vents," of the 2021 International Plumbing Code is amended to read as follows:

"**915.1 Type of fixtures.** A *combination waste and vent system* shall not serve fixtures other than floor drains, [~~sinks, lavatories~~] and indirect waste receptors [~~drinking fountains~~]. *Combination waste and vent systems* shall not receive the discharge from a food waste disposer or clinical sink."

25. Subsection 916.2, "Vent Connection," of Section 916, "Island Fixture Venting," of Chapter 9, "Vents," of the 2021 International Plumbing Code is deleted and replaced with a new Subsection 916.2, "Installation," to read as follows:

"**916.2 Installation.** Traps for island sinks and similar equipment must be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drain board height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent must be connected to the horizontal drain through a wye-branch fitting and must, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than 6 inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings must be used on all parts of the vent below the floor level and a minimum slope of ¼ inch per foot (20.9 mm/m) back to the drain must be maintained. The return bend used under the drain board must be a one piece fitting or an assembly of a 45 degree (0.79 radius), a 90 degree (1.6 radius) and a 45 degree (0.79 radius) elbow in the order named. Pipe sizing must be as required elsewhere in this code. The island sink drain, upstream of the return vent, must serve no other fixtures. An accessible cleanout must be installed in the vertical portion of the foot vent."

26. Subsection 916.3, "Vent Installation Below the Fixture Flood Level Rim," of Section 916, "Island Fixture Venting," of Chapter 9, "Vents," of the 2021 International Plumbing Code is deleted.

27. Paragraph 1003.3.1, "Grease Interceptors and Automatic Grease Removal Devices Required," of Subsection 1003.3, "Grease Interceptors," of Section 1003, "Interceptors and Separators," of Chapter 10, "Traps, Interceptors and Separators," of the 2021 International Plumbing Code is amended to read as follows:

"**1003.3.1 Grease interceptors and automatic grease removal devices required.** A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste exposure located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment capable of generating or receiving grease-laden waste shall include, but not be limited to, pot sinks, prerinse sinks; hand sinks; 3-compartment sinks; mop sinks; soup kettles or similar devices; wok stations; floor drains; [~~or~~] floor sinks [~~into which kettles are drained~~]; automatic hood wash units and dishwashers [~~without prerinse sinks~~]. Grease interceptors and automatic grease removal devices shall receive waste only through indirect means from fixtures and equipment that allow fats, oils or grease to be discharged. [~~Where lack of space or other constraints prevent~~] T[~~t~~]he installation [~~or replacement~~] of [~~a~~] grease interceptor [~~, one~~] or automatic [~~more~~] grease removal devices must comply with Section 17-5.2(e) of Chapter 17 of the *Dallas City Code* [~~interceptors shall be permitted to be installed on or above the floor and upstream of an existing grease interceptor~~]."

28. Section 1003, "Interceptors and Separators," of Chapter 10, "Traps, Interceptors and Separators," of the 2021 International Plumbing Code is amended by adding a new Subsection 1003.11, "Effluent Sampling," to read as follows:

"**1003.11 Effluent sampling.** An effluent sampling well shall be installed at or near the outlet of an interceptor or separator."

29. Section 1003, "Interceptors and Separators," of Chapter 10, "Traps, Interceptors and Separators," of the 2021 International Plumbing Code is amended by adding a new Subsection 1003.12, "Abandoned Traps, Interceptors or Separators," to read as follows:

"**1003.12 Abandoned traps, interceptors or separators.** Abandoned traps, interceptors or separators must be plugged or capped and must have the contents pumped and discarded in an approved manner. The top or entire vessel must be removed and the remaining portion of the tank or excavation must be immediately filled with approved materials."

30. Subsection [F] 1202.1, "Nonflammable Medical Gases," of Section 1202, "Medical Gases," of Chapter 12, "Special Piping and Storage Systems," of the 2021 International Plumbing Code is amended to read as follows:

"**[F] 1202.1 Nonflammable medical gases.** Nonflammable medical gas systems, inhalation anesthetic systems and vacuum piping systems shall be installed, tested and labeled in accordance with NFPA 99.

**Exception[~~s~~]:**

[~~1.~~] This section shall not apply to portable systems or cylinder storage.

[~~2. Vacuum system exhaust terminations shall comply with the *International Mechanical Code*.~~]"

31. Appendix E, "Sizing of Water Piping System," of the 2021 International Plumbing Code is adopted.

32. A new Appendix G, "Standards for Designing, Installing and Maintaining Landscape Irrigation Systems," is adopted as part of the 2021 International Plumbing Code to read as follows:

"**APPENDIX G**
**STANDARDS FOR DESIGNING, INSTALLING**
**AND MAINTAINING LANDSCAPE IRRIGATION SYSTEMS**

**SECTION G101**
**SCOPE AND PURPOSE**

**G101.1 Scope.** This appendix applies to the installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of *irrigation systems* within the city. This appendix regulates the installation of backflow prevention devices, control valves, automatic irrigation controllers, control wiring and *water conservation* required for the proper design, installation and operation of *irrigation systems*. All *irrigation systems* must comply with the provisions of this appendix and with 30 *Texas Administrative Code* Chapter 344. All irrigation systems supplied by a non-potable water source shall comply with Chapter 13 and all other sections of this code applicable to non-potable water uses.

**G101.2 Purpose.** The purpose of this appendix is to require all *irrigation systems* to be designed, installed, maintained, altered, repaired, serviced and operated in a manner that will promote *water conservation*.

## SECTION G102
## DEFINITIONS

**G102.1 Definitions.** The following words and terms shall have the meanings shown herein:

**IRRIGATION SYSTEM.** An assembly of component parts that is permanently installed for the controlled distribution and conservation of water to irrigate any type of landscape vegetation in any location, reduce dust or control erosion. This term does not include a system that is used on or by an agricultural operation as defined by Section 251.002 of the *Texas Agriculture Code*.

**IRRIGATION TECHNICIAN.** A person who works under the supervision of a licensed irrigator to install, maintain, alter, repair, service or supervise installation of an *irrigation system*, including the connection of such system in or to a private or public, raw or potable water supply system or any water supply, and who is required to be licensed under this ordinance or 30 *Texas Administrative Code* Chapter 344.

**MAINTENANCE, ALTERATION, REPAIR OR SERVICE.** Any activity that involves opening the irrigation main line to the atmosphere at any point prior to the discharge side of any irrigation zone control valve. This includes, but is not limited to, repairing or connecting into a main supply pipe, replacing a zone control valve or repairing a zone control valve in a manner that opens the system to the atmosphere.

**TCEQ.** Texas Commission on Environmental Quality.

**WATER CONSERVATION.** The design, installation, service and operation of an *irrigation system* in a manner that prevents the waste of water, promotes the most efficient use of water, and applies the least amount of water that is required to maintain healthy individual plant material or turf, reduce dust and control erosion.

## SECTION G103
## DESIGN OF THE IRRIGATION PLAN

**G103.1 Minimum standards for the design of the irrigation plan.**

**G103.1.1 Irrigation plan.** A licensed irrigator or landscape architect shall prepare an irrigation plan for each site where a new *irrigation system* will be installed. A city approved irrigation plan must be on the job site at all times during the installation of the *irrigation system*. A drawing showing the actual system installation must be provided to the *irrigation system* owner on completion of the installation. During installation, variances from the original plan may be authorized by the licensed irrigator if the variance from the plan does not:

1. Diminish the operational integrity of the *irrigation system*;

2. Violate any requirements of this ordinance or 30 *Texas Administrative Code* Chapter 344; and

3. Go unnoted in red on the irrigation plan.

**G103.1.2 Coverage area.** The irrigation plan must include complete coverage of the areas to be irrigated; areas not irrigated must be noted on the irrigation plan.

**G103.1.3 Plan requirements.** All irrigation plans used for *irrigation system* installation must be drawn to scale. Two sets of irrigation drawings must be submitted, one set to be retained as part of the inspection records, the other set is required for onsite inspection and must be given to the property owner on completion of the *irrigation system*. Submitted irrigation plans must have a minimum font size of 3/32", a maximum drawing sheet size of 36" X 48" and must include the following information:

1. the dated seal and signature of either a licensed irrigator or a landscape architect;

   **Exceptions:**

   1. Not required for property that is owned and occupied solely as a person's homestead.

   2. Not required for irrigation plans submitted by a licensed and registered plumbing contractor.

2. all major physical features and the boundaries of the area to be watered;

3. north arrow;

4. a legend;

5. the zone flow measurement for each zone;

6. location and type of each:

   6.1. controller;

   6.2. rain and freeze sensors;

   6.3. all electrical splices; and

7. location, type, and size of each:

   7.1. water source, such as, but not limited to a water meter and point(s) of connection;

   7.2. backflow prevention device;

7.3. water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip or micro-sprays;

7.4. valve, including, but not limited to, zone valves, station solenoid valves, automatic master valves and isolation valves;

7.5. pressure regulation components;

7.6. main line and lateral piping;

7.7. scale used; and

7.8. design pressure.

## SECTION Fl04
## DESIGN AND INSTALLATION

### G104.1 Minimum design and installation requirements.

**G104.1.1 Backflow protection.** Any *irrigation system* connected to a public or private potable water system must be connected through a *TCEQ*-approved backflow prevention method. The backflow prevention device must be approved by the American Society of Sanitary Engineering or the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California, the *Uniform Plumbing Code*, the *Dallas Plumbing Code* or a city-approved laboratory that has equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies. Backflow prevention devices must be installed in accordance with the laboratory approval standards, or if the approval does not include specific installation information, the manufacturer's current published recommendations.

**G104.1.1.1 Backflow device installation.** Connections between the potable water supply and the approved backflow preventer must be of the same type of material and joining method as required by the *Dallas Plumbing Code* and *Dallas One- and Two-Family Dwelling Code*. The backflow device must be installed a maximum of 10 feet from the water meter on the property being served by the *irrigation system*. Backflow devices may not be installed in the parkway (between the sidewalk and the public right-of-way.)

**Exceptions:**

1. Atmospheric vacuum breakers must be installed in an accessible location.

2. Backflow devices may be installed in the public right-of-way or at a distance greater than 10 feet from the water meter or potable water supply with prior approval from the building official.

**G104.1.1.2 Approved types of backflow devices.** The following types of backflow devices are approved:

1. Air gap.

2. Atmospheric vacuum breaker (AVB).

3. Pressure vacuum breaker (PVB).

4. Double check backflow preventer (DCA).

5. Reduced pressure principal backflow preventer (RPZ).

**G104.1.1.3 Double check backflow assembly (DCA).** A DCA must be installed and made accessible by a minimum jumbo valve box (length 26 inches X 19 inches) or larger.

**G104.1.1.3.1 Valve box.** A valve box must be installed on compacted soil. Rocks, brick or other types of support may not be used. A valve box cover must be installed flush with finish grade. A minimum 2-inch air gap is required between the bottom of the DCA and 12 inches of washed rock.

**G104.1.1.4 Reduced pressure principal backflow preventer (RPZ).** An RPZ must be installed according to the manufacturer's installation requirements for aboveground installation and protected from freezing. Twelve inches of washed rock must be installed under the RPZ.

**G104.1.2 Isolation valve and y-type strainer.** An isolation valve and y-type strainer must be installed prior to the approved backflow prevention assembly in an approved valve box. The isolation valve and y-type strainer must be installed a maximum of 24 inches from the installation of the approved backflow prevention assembly.

**G104.2 Limitation.** No irrigation design or installation may require the use of any component, including the water meter, in a way which exceeds the manufacturer's published performance limitations for the component.

**G104.3 Emission devices.**

**G104.3.1 Emission devices**. The maximum spacing between emission devices must not exceed the manufacturer's published radius or spacing of the device(s). The radius or spacing is determined by referring to the manufacturer's published specifications for a specific emission device at a specific operating pressure.

**G104.3.2 Aboveground spray.** New *irrigation systems* may not utilize aboveground spray emission devices in landscaped areas that are less than 60 inches in width or length not including impervious surfaces which contain impervious pedestrian or vehicular traffic surfaces, along two or more perimeters. If pop-up sprays or rotary sprinkler heads are used in a new *irrigation system*, the sprinkler heads must direct flow away from any adjacent surface and may not be installed closer than four inches from a hardscape, such as, but not limited to, a building foundation, fence, concrete, asphalt, pavers or stones set with mortar.

**Exception:** Narrow paved walkways, jogging paths, golf cart paths or other small areas located in cemeteries, parks, golf courses or other public areas may be exempted from this requirement if the runoff drains into a landscaped area.

**G104.3.3 Water pressure.** Emission devices must be installed to operate at the minimum and not above the maximum sprinkler head pressure as published by the manufacturer for the nozzle and head spacing that is used. Methods to achieve the water pressure requirements include, but are not limited to, flow control valves, a pressure regulator or pressure compensating spray heads.

**G104.4 Misting.** Misting must be kept to a minimum and may not be used as an irrigation method for shrubs and groundcover.

**G104.5 Piping.**

**G104.5.1 Velocity.** Piping in *irrigation systems* must be designed and installed so that the flow of water in the pipe will not exceed a velocity of 5 feet per second for polyvinyl chloride (PVC) pipe or exceed the manufacturer's recommendation for other piping materials.

**G104.5.2 PVC pipe primer solvent.** All new *irrigation systems* installed using PVC pipe and fittings must be primed with a colored primer prior to applying the PVC cement in accordance with the *Dallas Plumbing Code* and the *Dallas One-and Two-Family Dwelling Code*.

**G104.5.3 Depth coverage of piping.** Piping must be installed to provide a minimum depth coverage of 6 inches of select backfill between the top of the pipe and the natural grade of the topsoil. All portions of the *irrigation system* that fail to meet this standard must be noted on the irrigation plan. If the area being irrigated has rock at a depth of 6 inches or less, select backfill may be mounded over the pipe. Mounding must be noted on the irrigation plan and discussed with the *irrigation system* owner or owner's representative to address any safety issues. All trenches and holes created during installation of an *irrigation system* must be backfilled and compacted to the original grade. Mechanical excavation is not allowed where damage could occur to a tree root system per Section 5lA-10.136 of the *Dallas Development Code*.

**Exception:** If a utility, man-made structure or roots create an unavoidable obstacle which Makes the 6-inch depth coverage requirement impractical, the piping must be installed to provide a minimum of 2 inches of select backfill between the top of the pipe and the natural grade of the topsoil.

**G104.6 Irrigation zones.** *Irrigation systems* must have separate zones based on plant material type, microclimate factors, topographic features, soil conditions and hydrological requirements. Zones must be designed and installed so that all of the emission devices in that zone irrigate at the same precipitation rate.

**G104.7 Spray over impervious surfaces prohibited.** *Irrigation systems* must not spray water over surfaces made of concrete, asphalt, brick, wood, stones set with mortar or any other impervious material, such as, but not limited to, walls, fences, sidewalks, streets, etc.

**G104.8 Master valve.** A master valve must be installed on the discharge side of the backflow prevention device on all new installations in an approved valve box.

**G104.9 Rain and freeze shut-off devices.** All automatically controlled *irrigation systems* must include sensors or other technology designed to inhibit or interrupt operation of the *irrigation system* during periods of moisture, rainfall or freezing temperatures. Rain or moisture and freeze shut-off technology must be installed according to the manufacturer's published recommendations. All existing automatic *irrigation systems* must include a sensor or other technology designed to inhibit or interrupt operation of the *irrigation system* during periods of moisture, rainfall or temperatures of 37º or below.

**G104.10 Valves.** All new *irrigation systems* and major *maintenance, alterations, repairs or service*, including repair or replacement of the backflow device, must include an isolation valve and y-type strainer between the water meter and the backflow prevention device. A master valve must be installed after the backflow preventer. Zone valve(s), station solenoid valve(s), an automatic master valve and isolation valves must be installed in an approved valve box for accessibility, repair and service.

**G104.11 Irrigation system wiring.**

**G104.11.1 Underground electrical wiring.** Underground electrical wiring used to connect an automatic controller to any electrical component of the *irrigation system* must be listed by Underwriters Laboratories as acceptable for direct underground burial.

**G104.11.2 Component wiring size.** Electrical wiring that connects any *irrigation system* electrical components must be sized according to the manufacturer's recommendation.

**G104.11.3 Wire splicing.** Electrical wire splices which may be exposed to moisture must be waterproof as certified by the wire splice manufacturer. Electrical splice locations must be noted on the irrigation plan.

**G104.11.4 Automatic controller wiring.** Underground electrical wiring that connects an automatic controller to any electrical component of the *irrigation system* must be buried with a minimum of 6 inches of select backfill.

**G104.11.5 Exposed wiring.** All exposed wiring must be protected from physical damage in compliance with the *Dallas Electric Code*.

**Exception:** Listed cord and plug.

**G104.12 Non-potable water.** Water contained within the piping of an *irrigation system* is deemed to be non-potable. No drinking or domestic water usage, such as, but not limited to, filling swimming pools or decorative fountains, may be connected to an *irrigation system*. If a hose bibb (an outdoor water faucet that has hose threads on the spout) is connected to an *irrigation system* for the purpose of providing supplemental water to an area, the hose bibb must be installed using a quick coupler key on a quick coupler installed in a covered purple valve box (consistent with Pantone # 512) . The hose bibb and the valve box cover must be labeled "NON-POTABLE WATER – DO NOT DRINK" and "AGUA DE RECIPERACION – NO BEBER". The lettering shall be white on a purple background (consistent with Pantone # 512). In addition to the required wordage, the pictograph shown in Figure 608.9.1 shall appear on the required signage. An isolation valve must be installed upstream of a quick coupler connecting a hose bibb to an *irrigation system*. The area being watered with a non-potable source shall be identified as per Section G106.1.5.

**G104.13 Check valves.** Check valves are required where elevation differences may result in low head drainage. Check valves may be located at the sprinkler head(s) or on the lateral lines.

**G104.14 Direct supervision.** Job site supervision is required by either a licensed irrigator or *irrigation technician* while work is being performed. When a licensed irrigator is not onsite, the licensed irrigator shall be responsible for ensuring that a licensed *irrigation technician* is on-site to supervise the installation of the *irrigation system*.

**G104.15 Programmable irrigation controller.** All new *irrigation system* installations require the installation of a programmable irrigation controller. The programmable irrigation controller must be equipped with an emergency back-up power supply in the event of a primary power failure.

**G104.15.1 Manufacturer's instructions.** A programmable irrigation controller must be installed according to the manufacturer's installation instructions.

**G104.15.2 Maximum height.** A programmable irrigation controller may not be mounted more than 60 inches above a level floor surface.

**G104.15.3 Power surges.** The electrical power supplying a programmable irrigation controller must be protected from power surges or utilize a dedicated electrical circuit.

**G104.15.4 Minimum installation distance.** A programmable irrigation controller must be installed at least 15 inches from center to any side wall or similar obstruction.

**Exception:** When the manufacturer's installation instructions require a lesser distance.

## SECTION G105
## COMPLETION AND MAINTENANCE

**G105.1 Completion of irrigation system installation.**

**G105.1.1 Completion.** The licensed irrigator, installer or technician shall complete the following items upon completion of the *irrigation system* installation:

1. A final "walk through" with the *irrigation system's* owner or the owner's representative to explain the operation of the system.

2. A maintenance checklist with the signature of the *irrigation system's* owner or owner's representative and signed, dated and sealed by the licensed irrigator, installer or technician. If the *irrigation system's* owner or owner's representative is unwilling or unable to sign the maintenance checklist, the irrigator shall note the time and date of the refusal on the *irrigation system's* owner or owner's representative's signature line. The *irrigation system* owner or owner's representative will be given the original maintenance checklist and a duplicate copy of the maintenance checklist shall be maintained by the licensed irrigator. The items on the maintenance checklist must include but are not limited to:

    2.1. The manufacturer's manual for the automatic controller.

    2.2. A seasonal (spring, summer, fall, winter) watering schedule based on either current/real time evapotranspiration or monthly historical reference evapotranspiration (historical ET) data, monthly effective rainfall estimates, plant landscape coefficient factors and site factors.

    2.3. A list of components, such as the nozzle or pump filters, and other such components that require maintenance and the recommended frequency for the service.

3. A permanent sticker which contains the licensed irrigator's name, license number, company name, telephone number and the dates of the warranty period affixed to each programmable irrigation controller installed by the licensed irrigator, installer or technician. If the *irrigation system* is manual, the sticker must be affixed to the original maintenance checklist. Programmable irrigation controllers listed and installed for outdoor installation require a water proof permanent sticker. The information contained on the sticker, whether indoor or outdoor, must be printed with waterproof ink.

4. Provide the *irrigation system's* owner or owner's representative a copy of the irrigation plan indicating the actual system installation.

5. The statement, "This irrigation system has been installed in accordance with all applicable state and local laws, ordinances, rules, regulations or orders. I have tested the system and determined that it has been installed according to the irrigation plan and is properly adjusted for the most efficient application of water at this time."

6. Provide a certificate of compliance to the building official and the property owner or the property owner's representative stating that the requirements of this section and 30 *Texas Administrative Code* Chapter 344 have been completed.

**G105.2 Maintenance, alteration, repair or service of irrigation systems.**

**G105.2.1 Irrigator responsibility.** The irrigator is responsible for all work that the irrigator performed during the *maintenance, alteration, repair or service* of an *irrigation system* during the warranty period. The irrigator or business owner is not responsible for the professional negligence of any other irrigator who subsequently conducts any irrigation service on the same *irrigation system*.

**G105.2.2 Trenches and holes.** All trenches and holes created during the *maintenance, alteration, repair or service* of an *irrigation system* must be returned to the original grade with compacted select backfill.

**G105.2.3 PVC primer.** Colored PVC pipe primer solvent must be used on all pipes and fittings used in the *maintenance, alteration, repair or service* of an *irrigation system* in accordance with the *Dallas Plumbing Code* or *Dallas One- and Two-Family Dwelling Code*.

**G105.2.4 Maintenance, alteration, repair or service.** *When maintenance, alteration, repair or service* of an *irrigation system* is required and performed and an isolation valve, y-type strainer, rain and freeze sensors or approved backflow device are not present, the valve(s) and or sensors must be installed, permitted, tested and inspected. Existing approved backflow device(s) must be tested and test report given to the building official.

## SECTION G106
## RECLAIMED WATER OR WATER WELLS

**G106.1 Reclaimed water or water wells.** Reclaimed water, storm water, rainwater harvest, gray water or water wells may be utilized in landscape *irrigation systems*.

**G106.1.1 Connections.** An *irrigation system* utilizing reclaimed water, storm water, rainwater harvest, gray water or well water must not be directly connected to the potable water supply.

**Exception:** When potable water is protected by an air gap as defined by and installed in accordance with the *Dallas Plumbing Code* or the *Dallas One- and Two-Family Dwelling Code* and the potable water system shall be protected by means of a reduce pressure backflow preventer immediately at the point of connection.

**G106.1.2 Edible crops.** Water from an *irrigation system* utilizing reclaimed water, storm water, rainwater harvest, gray water or well water may not make direct contact with edible crops, unless the crop is pasteurized before consumption.

**G106.1.3 Property lines.** An *irrigation system* utilizing reclaimed water, storm water, rainwater harvest, gray water or well water must not spray water across property lines.

**G106.1.4 Purple components**. An *irrigation system* utilizing reclaimed water, storm water, rainwater harvest, gray water or well water must be installed using purple components (consistent with Pantone # 512) as detailed in the *Dallas Plumbing Code* per the *Dallas One- and Two-Family Dwelling Code*.

**G106.1.5 Sign.** Areas being irrigated utilizing a water reuse system or well shall be properly identified. Signs shall be a minimum 8 inch by 8 inch corrosion-resistant waterproof sign. Signage shall read as follows: "NON-POTABLE WATER - DO NOT DRINK" and "AGUA DE RECUPERACION - NO BEBER." The words shall be legibly and indelibly printed and shall be not less than 0.5 inch (12.7 mm) in height on a purple background (consistent with Pantone color # 512) with white letters. In addition to the required wordage, the pictograph shown in Figure 608.9.1 shall appear on the required signage. The signs must be located in a manner that is visible to all persons and approved by the building official. The number of signs installed must also be approved by the building official.

**G106.1.6 Backflow prevention.** Backflow prevention on the reclaimed water supply line must be in accordance with the *Dallas Plumbing Code*, *Dallas One- and Two-Family Dwelling Code*, and Dallas Water Utilities rules and regulations."

35. Appendices A, B, C, and F of the 2021 International Plumbing Code are not adopted.

36. All chapters of the 2021 International Plumbing Code adopted by this ordinance are subchapters of Chapter 54 of the Dallas City Code, as amended.

37. All references in the 2021 International Plumbing Code to the fire code, building code, mechanical code, electrical code, residential code, existing building code, energy conservation code, fuel gas code, green construction code, and swimming pool and spa code refer, respectively, to Chapters 16, 53, 55, 56, 57, 58, 59, 60, 61, and 62 of the Dallas City Code.

SECTION 2. That a person violating a provision of this ordinance, upon conviction, is punishable by a fine not to exceed $2,000. No offense committed and no liability, penalty, or forfeiture, either civil or criminal, incurred prior to the effective date of this ordinance will be discharged or affected by this ordinance. Prosecutions and suits for such offenses, liabilities, penalties, and forfeitures may be instituted, and causes of action pending on the effective date of this ordinance may proceed, as if the former laws applicable at the time the offense, liability,

penalty, or forfeiture was committed or incurred had not been amended, repealed, reenacted, or superseded, and all former laws will continue in effect for these purposes.

SECTION 3. That Chapter 54 of the Dallas City Code, as amended, will remain in full force and effect, save and except as amended by this ordinance. Any existing structure, system, development project, or registration that is not required to come into compliance with a requirement of this ordinance will be governed by the requirement as it existed in the former law last applicable to the structure, system, development project, or registration, and all former laws will continue in effect for this purpose.

SECTION 4. That the terms and provisions of this ordinance are severable and are governed by Section 1-4 of Chapter 1 of the Dallas City Code, as amended.

SECTION 5. That this ordinance will take effect on May 12, 2023, and it is accordingly so ordained.

APPROVED AS TO FORM:

TAMMY L. PALOMINO, Interim City Attorney

By_____
Assistant City Attorney

Passed_____