CITY OF FRISCO, TEXAS ORDINANCE NO. 08-12-103

AN ORDINANCE OF THE CITY OF FRISCO, TEXAS, ADDING A NEW DIVISION 12 (IRRIGATION SYSTEMS) TO ARTICLE IV (TECHNICAL CODES) OF CHAPTER 18 (BUILDINGS AND BUILDING REGULATIONS) OF THE FRISCO CODE OF ORDINANCES; ESTABLISHING THE MINIMUM STANDARDS FOR INSTALLATION OF IRRIGATION SYSTEMS WITHIN THE CORPORATE LIMITS OF THE CITY AND THE EXTRA TERRITORIAL JURISDICTION; PROVIDING FOR A PENALTY FOR THE VIOLATION OF THIS ORDINANCE; PROVIDING FOR THE REPEALING, SAVINGS AND SEVERABILITY CLAUSES; PROVIDING FOR AN EFFECTIVE DATE OF THIS ORDINANCE; AND PROVIDING FOR THE PUBLICATION OF THE CAPTION HEREOF.

WHEREAS, the City Council of the City of Frisco, Texas (the "City Council") has investigated and determined that water conservation and environmental protection are important issues and concerns affecting the City; and

WHEREAS, properly-installed irrigation systems will conserve water, help avoid wasteful use, and improve the overall quality of life for the citizens of the City of Frisco, Texas (the "City"); and

WHEREAS, during the 2007 legislative session, the Texas Legislature adopted House Bill 1656 to become effective on January 1, 2009; and

WHEREAS, House Bill 1656 amended Chapter 401 of the Texas Local Government Code to require a city with a population of 20,000 or more to regulate the installation of irrigation systems within the corporate limits of the City as well as the City's extraterritorial jurisdiction; and

WHEREAS, the provisions herein are necessary to promote and protect the health, safety, and welfare of the public by creating an urban environment that is protective of the City's water supply and provides an enhanced quality of life for the citizens of the City of Frisco.

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

SECTION 1. Findings Incorporated. The findings set forth above are incorporated into the body of this Ordinance as is fully set forth herein.

SECTION 2. Amendment to Article IV (Technical Codes) of Chapter 18 (Buildings and Building Regulations) of the Frisco Code of Ordinances. Article IV (Technical Codes) of Chapter 18 (Buildings and Building Regulations) of the Frisco Code of Ordinances is amended by adding a new Division 12 (Irrigation Systems) to read as follows:

"DIVISION 12. IRRIGATION SYSTEMS

Sec. 18-377. Definitions

All technical industry words or phrases related to the irrigation systems not specifically defined in this section shall have the meanings customarily attributable in the irrigation industry. The following words and terms, when used in this Ordinance, have the following meanings, unless the context clearly indicates otherwise.

Air gap--A complete physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

Atmospheric Vacuum Breaker--An assembly containing an air inlet valve, a check seat, and an air inlet port. The flow of water into the body causes the air inlet valve to close the air inlet port. When the flow of water stops the air inlet valve falls and forms a check against back-siphonage. At the same time it opens the air inlet port allowing air to enter and satisfy the vacuum. Also known as an Atmospheric Vacuum Breaker Back-Siphonage Prevention Assembly.

Automatic controller--A solid state timer capable of operating valve stations to set the days, time of day, and length of time water is applied.

Backflow prevention--The mechanical prevention of reverse flow, or back siphonage, of non-potable water from an irrigation system into the potable water source.

Backflow prevention assembly--Any assembly used to prevent backflow into a potable water system. The type of assembly used is based on the existing or potential degree of health hazard and backflow condition.

Completion of irrigation system installation--When the landscape irrigation system has been installed, all minimum standards met, all tests performed, and the irrigator is satisfied that the system is operating correctly.

Consulting--The act of providing advice, guidance, review or recommendations related to landscape irrigation systems.

Cross-connection--An actual or potential connection between a potable water source and an irrigation system that may contain contaminates or pollutants or any source of water that has been treated to a lesser degree in the treatment process.

Design--The act of determining the various elements of a landscape irrigation system that will include, but not be limited to, elements such as collecting site specific information, defining the scope of the project, defining plant watering needs, selecting and laying out emission devices, locating system components, conducting hydraulics calculations, identifying any local regulatory requirements, or scheduling irrigation work at a site. Completion of the various components will result in an irrigation plan.

Design pressure--The pressure that is required for an emission device to operate properly. Design pressure is calculated by adding the operating pressure necessary at an emission device to the total of all pressure losses accumulated from an emission device to the water source.

Double Check Valve--An assembly that is composed of two independently acting, approved check valves, including tightly closed resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks. Also known as a Double Check Valve Backflow Prevention Assembly.

Emission device--Any device that is contained within an irrigation system and that is used to apply water. Common emission devices in an irrigation system include, but are not limited to, spray and rotary sprinkler heads, and drip irrigation emitters.

Employed--Engaged or hired to provide consulting services or perform any activity relating to the sale, design, installation, maintenance, alteration, repair, or service to irrigation systems. A person is employed if that person is in an employer-employee relationship as defined by Internal Revenue Code, 26 United States Code Service, §3212(d) based on the behavioral control, financial control, and the type of relationship involved in perfom1ing employment related tasks.

Head-to-head spacing--The spacing of spray or rotary heads equal to the manufacturer's published radius of the head.

Health hazard--A cross-connection or potential cross-connection with an irrigation system that involves any substance that may, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects.

Hydraulics--The science of dynamic and static water; the mathematical computation of determining pressure losses and pressure requirements of an irrigation system.

Inspector--A licensed plumbing inspector, water district operator, other governmental entity, or irrigation inspector who inspects irrigation systems and performs other enforcement duties for a municipality or water district as an employee or as a contractor.

Installer--A person who actually connects an irrigation system to a private or public raw or potable water supply system or any water supply, who is licensed according to Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

Irrigation controller—A programmable device capable of providing multiple programs with at least three (3) start times per program and capable of limiting the irrigation frequency to once every seven (7) days.

Irrigation inspector--A person who inspects irrigation systems and performs other enforcement duties for a municipality or water district as an employee or as a contractor and is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

Irrigation plan--A scaled drawing of a landscape irrigation system which lists required information, the scope of the project, and represents the changes made in the installation of the irrigation system.

Irrigation services--Selling, designing, installing, maintaining, altering, repairing, servicing, permitting, providing consulting services regarding, or connecting an irrigation system to a water supply.

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, and/or to reduce dust or control erosion. This term does not include a system that is used on or by an agricultural operation as defined by Texas Agricultural Code, §251.002.

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 Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

Irrigation zone--A subdivision of an irrigation system with a matched precipitation rate based on plant material type (such as turf, shrubs, or trees), microclimate factors (such as sun/shade ratio), topographic features (such as slope) and soil conditions (such as sand, loan1, clay, or combination) or for hydrological control.

Irrigator--A person who sells, designs, offers consultations regarding, installs, maintains, alters, repairs, services or supervises the installation of an irrigation system, including tl1e connection of such system to a private or public, raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30.

Irrigator-in-Charge--The irrigator responsible for all irrigation work performed by an exempt business owner, including, but not limited to obtaining permits, developing design plans, supervising the work of other irrigators or irrigation technicians, and installing, selling, maintaining, altering, repairing, or servicing a landscape irrigation system.

Landscape irrigation--The science of applying the necessary amount of water to promote or sustain healthy growth of plant material or turf.

License--An occupational license that is issued by the Texas Commission on Environmental Quality under Title 30, Texas Administrative Code, Chapter 30 to an individual that authorizes the individual to engage in an activity that is covered by Title 30, Texas Administrative Code, Chapter 30.

Mainline--A pipe within an irrigation system that delivers water from the water source to the individual zone valves.

Maintenance checklist--A document made available to the irrigation system's owner or owner's representative that contains information regarding the operation and maintenance of the irrigation system, including, but not limited to: checking and repairing the irrigation system, setting the automatic controller or smart controller, weather monitor, checking the rain or moisture sensor, cleaning filters, pruning grass and plants away from irrigation emitters, using and operating the irrigation system, the precipitation rates of each irrigation zone within the system, any water conservation measures currently in effect from the water purveyor, the name of the water purveyor, a suggested seasonal or monthly watering schedule based on current evapotranspiration data for the geographic region, and the minimum water requirements for the plant material in each zone based on the soil type and plant material where the system is installed.

Major maintenance, alteration, repair, or service--Any activity that involves opening to the atmosphere the irrigation main line 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.

Master valve--A remote control valve located after the backflow prevention device that controls the flow of water to the irrigation system mainline.

Matched precipitation rate--The condition in which all sprinkler heads within an irrigation zone apply water at the same rate.

New installation--An irrigation system installed at a location where one did not previously exist.

Pass-through contract--A written contract between a contractor or builder and a licensed irrigator or exempt business owner to perform part or all of the irrigation services relating to an irrigation system.

Potable water--Water that is suitable for human consumption.

Pressure Vacuum Breaker--An assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. Also known as a Pressure Vacuum Breaker Back-siphonage Prevention Assembly.

Reclaimed water--Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use, such as landscape irrigation.

Records of landscape irrigation activities --The irrigation plans, contracts, warranty information, invoices, copies of permits, and other documents that relate to the installation, maintenance, alteration, repair, or service of a landscape irrigation system.

Reduced Pressure Principle Backflow Prevention Assembly--An assembly containing two independently acting approved check valves together with a hydraulically operating mechanically independent pressure differential relief valve located between the two check valves and below the first check valve.

~~*Smart (ET) Controller--A* device capable of receiving and monitoring weather data using evapotranspiration technology or measuring soil moisture directly to calculate or determine the amount of moisture lost from the soil to automatically create or make adjustments to the irrigation schedule to apply only the amount of water that is necessary to replace what has been lost.~~

Static water pressure--The pressure of water when it is not moving.

Supervision--The on-the-job oversight and direction by a licensed irrigator who is fulfilling his or her professional responsibility to the client and/or employer in compliance with local or state requirements. Also a licensed installer working under the direction of a licensed irrigator or beginning January 1, 2009, an irrigation technician who is working under the direction of a licensed irrigator to install, maintain, alter, repair or service an irrigation system.

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.

Zone flow--A measurement, in gallons per minute or gallons per hour, of the actual flow of water through a zone valve, calculated by individually opening each zone valve and obtaining a valid reading after the pressure has stabilized. For design purposes, the zone flow is the total flow of all nozzles in the zone at a specific pressure.

Zone valve--An automatic valve that controls a single zone of a landscape irrigation system.

Sec. 18-378. License and Permit Required

(a) License Required. Any person who connects an irrigation system to the water supply within the City or the City's extraterritorial jurisdiction, commonly referred to as the ETJ, must hold a valid license, as defined by Title 30, Texas Administrative Code, Chapter 30 and required by Chapter 1903 of the Texas Occupations Code, or as defined by Chapter 365, Title 22 of the Texas Administrative Code and required by Chapter 1301 of the Texas Occupations Code.

Exemption

A property owner is not required to be licensed in accordance with Texas Occupations Code, Title 12, §1903.002(c)(l) if he or she is performing irrigation work in a building or on a premises owned or occupied by the person as the person's home. A home or property owner who installs an irrigation system must meet the remaining standards contained in this ordinance. Title 30, Texas Administrative Code, Chapter 344 regarding spacing, water pressure, spraying water over impervious materials, rain or moisture shut-off devices or otl1er technology, backflow prevention and isolation valves. The City may, at any point, adopt more stringent requirements for a home or property owner who installs an irrigation system. *See* Texas Occupations Code §1903.002 for other exemptions to the licensing requirement.

(b) Permit Required. Any person installing an irrigation system within the territorial limits or extraterritorial jurisdiction of the City is required to obtain a permit from the City. Two copies of an irrigation plan must be submitted to the Building Official or the official City representative in conjunction with the permit application with one set being retained as part of the inspection records. The second set is required for on-site inspection and must be given to the property owner on completion of the irrigation system. Any plan approved for a permit must be in compliance with the requirements of this Ordinance. The City of Frisco will provide a checklist for plan review and inspections.

Exemptions

(I) Any irrigation system that is an on-site sewage disposal system, as defined by Section 355.002, Health and Safety Code; or

(2) An irrigation system used on or by an agricultural operation as defined by Section 251.002, Agriculture Code; or

Sec. 18-379. Backflow Prevention Methods and Devices

(a) General. Any irrigation system that is connected to the potable water supply must be connected through a backflow prevention method approved by the Texas Commission on Environmental Quality (TCEQ). The backflow prevention device must be approved by the American Society of Sanitary Engineers, the Foundation for Cross-Connection Control and Hydraulic Research, the University of Southern California, the Uniform Plumbing Code; or any other laboratory that has equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies. The backflow prevention device 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.

(1) If conditions that present a health hazard exist, one of the following methods must be usedto prevent backflow:

(i) An air gap may be used if:

there is an unobstructed physical separation; and
the distance from the lowest point of the water supply outlet lo the flood rim of the fixture or assembly into which the outlet discharges is at least one inch or twice the dian1eter of the water supply outlet, whichever is greater.

(ii) Reduced pressure principle backflow prevention assemblies may be used if:

the device is installed at a minimum of twelve (12) inches above ground in a location that will ensure that the assembly will not be s submerged; and
drainage is provided for any water that may be discharged through the assembly relief valve.

(iii) Pressure vacuum breakers may be used if:

no back-pressure condition will occur; and
the device is installed at a minimum of twelve (12) inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler.

(iv) Atmospheric vacuum breakers may be used if:

no back-pressure will be present;
there are no shutoff valves downstream from the atmospheric vacuum breaker;
the device is installed at a minimum of six (6) inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler;
there is no continuous pressure on the supply side of the atmospheric vacuum breaker for more than twelve (12) hours in any twenty-four (24) hour period; and
a separate atmospheric vacuum breaker is installed on the discharge side of each irrigation control valve, between the valve and all the emission devices that the valve controls.

(2) Backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter.

(3) If there are no conditions that present a health hazard, double check valve backflow prevention assemblies may be used to prevent backflow if the device is tested upon installation and test cocks are used for testing only.

(4) If a double check valve is installed below ground:

(i) test cocks must be plugged, except when the double check valve is being tested;
(ii) test cock plugs must be threaded, water-tight, and made of non-ferrous material;
(iii) a y-type strainer is installed on the inlet side of the double check valve;
(iv) there must be a minimum twelve (12) inch clearance between any fill material and the bottom of the double check valve to allow space for testing and repair; and
(v) there must be space on the side of the double check valve to test and repair the double check valve.

(5) If an existing irrigation system without a backflow-prevention assembly requires major maintenance, alteration, repair, or service, the system must be connected to the potable water supply through an approved, properly installed backflow prevention method before any major maintenance, alteration, repair, or service is performed.

(6) If an irrigation system is connected to a potable water supply through a double check valve, pressure vacuum breaker, or reduced pressure principle backflow assembly and includes an automatic master valve on the system, the automatic master valve must be installed on the discharge side of the backflow prevention assembly.

(7) The irrigator shall ensure the backflow prevention device is tested by a licensed Backflow Prevention Assembly Tester prior to being placed in service and the test results provided to the City and the irrigation system's owner or owner's representative within ten (10) business days of testing of the backflow prevention device.

Sec. 18-379. Specific Conditions and Cross-Connection Control

(a) Before any chemical is added to an irrigation system connected to the potable water supply, the irrigation system must be connected through a reduced pressure principle backflow prevention assembly or air gap.

(b) Connection of any additional water source to an Irngation system that is connected to the potable water supply can only be done if the irrigation system is

connected to the potable water supply through a reduced-pressure principle backflow prevention assembly or an air gap.

(c) Irrigation system components with chemical additives induced by aspiration, injection, or emission system connected to any potable water supply must be connected through a reduced pressure principle backflow device.

(d) If an irrigation system is designed or installed on a property that is served by an on-site sewage facility, as defined in Title 30, Texas Administrative Code, Chapter 285, then:

(1) all irrigation piping and valves must meet the separation distances from the On-Site Sewage Facilities system as required for a private water line in Title 30, Texas Administrative Code, Section 285.91(10);

(2) any connections using a private or public potable water source that is not the City's potable water system must be connected to the water source through a reduced pressure principle backflow prevention assembly as defined in Title 30, Texas Administrative Code, Section 344.50; and

(3) any water from the irrigation system that is applied to the surface of the area utilized by the On-Site Sewage Facility system must be controlled on a separate irrigation zone or zones so as to allow complete control of any irrigation to that area so that there will not be excess water that would prevent the On-Site Sewage Facilities system from operating effectively.

Sec. 18-380. Water Conservation

All irrigation systems shall be designed, installed, maintained, altered, repaired, serviced, and operated in a manner that will promote water conservation as defined in the Definitions section of this Ordinance.

Sec. 18-381. Irrigation Plan Design: Minimum Standards

(a) An irrigator shall prepare an irrigation plan for each site where a new irrigation system will be installed. A paper or electronic copy of the irrigation plan must be on the job site at all times during the installation of the irrigation system. A drawing showing the actual installation of the system is due to each irrigation system owner after all new irrigation system installations. During the installation of the irrigation system, 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; and
(3) go unnoted in red on the irrigation plan.

(b) The irrigation plan must include complete coverage of the area to be irrigated. If a system does not provide complete coverage of the area to be irrigated, it must be noted on the irrigation plan.

(c) All irrigation plans used for construction must be legible and drawn to scale on a maximum sheet size of 24" by 36". The plan must include, at a minimum, the following information:

(1) the irrigator's seal, signature, and date of signing;
(2) all major physical features and the boundaries of the areas to be watered;
(3) a North arrow;
(4) a legend;
(5) the zone flow measurement for each zone;
(6) location and type of each:
  (i) Irrigation ~~smart (ET)~~ controller; and
  (ii) sensor ~~(for example, but not limited to, rain, moisture, wind, flow, or freeze);~~ that has the capability to set thresholds for both rain and freeze at 40 degrees or above;
(7) location, type, and size of each:
  (i) water source, such as, but not limited to a water meter and point(s) of connection;
  (ii) backflow prevention device;
  (iii) water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip, or micro-sprays;
  (iv) valve, including but not limited to, zone valves, master valves, and isolation valves;
  (v) pressure regulation component; and
  (vi) main line and lateral piping
  (vii) wiring splice locations.
(8) the engineer's scale used; and areas from heads showing head to head cover coverage
(9) the design pressure
(10) total landscape area (excluding all impervious surfaces) served by the irrigation system.

Sec. 18-382. Design and Installation: Minimum Requirements

(a) No irrigation design or installation shall require the use of any component, including the water meter, in a way which exceeds the manufacturer's published performance limitations for the component; and

(b) Spacing.

(l) 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. Turf area eight (8) feet or wider must have heads spraying back to achieve head to head coverage.

(2) New irrigation systems or extensions of systems shall comply with Article IV, Section 2 of the Comprehensive Zoning Ordinance (Revised ZA06-0005). 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 shall 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.

(3) 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.

(4) Backflow prevention device must be located no more than three (3) feet from the water meter. In cases where RPZ or PVB assemblies are used, check with the city for approved location.

(c) 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 either, ~~but are not limited to, flow control valves,~~ a city approved pressure regulator, or pressure compensating ~~spray~~ heads. Commercial irrigation must use pressure regulating heads on all turf heads.

(d) Piping. Piping in irrigation systems must be designed and installed so that the flow of water in the pipe will not exceed a velocity of five (5) feet per second for polyvinyl chloride (PVC) pipe.

(e) Irrigation Zones. Irrigation systems shall have separate zones based on plant material type, microclimate factors, topographic features, foundation protection, soil conditions, and hydrological requirements. All non-turf landscape areas shall be designed with drip irrigation to include pressure compensating non-draining emitters and a 120 mesh filter.~~and/or pressure compensating tubing~~. Parkway areas within ten (10) feet from the curb must have either drip irrigation or high efficiency, low precipitation nozzles, as approved by the city. No single stream rotors permitted in front yards unless approved by the city. Swimming pools and other water features must be separate from the irrigation system.

(f) Matched precipitation rate. Zones must be designed and installed so that all of the emission devices in that zone irrigate at the same precipitation rate.

(g) No-spray surface. Irrigation systems shall 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.

(h) Foundations. ~~When applicable, a~~A separate station shall be dedicated only for drip irrigation for the purpose of watering a structure's foundation.

(i) Master valve. A ~~flow control~~ master valve shall be installed on the discharge side of the backflow prevention device on all new installations and located within

twelve (12) inches of the backflow prevention device.

(j) 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 line. Any slope greater than 4:1 ration must be irrigated by drip irrigation

(k) Pop-up heads. Pop-up heads shall be installed and operated to extend above all landscape turfgrass.

(l) PVC pipe primer solvent. All new irrigation systems that are installed using PVC pipe and fittings shall be primed with a colored primer prior to applying the PVC cement in accordance with the Uniform Plumbing Code (Section 316) or the International Plumbing Code (Section 605).

(m) ~~Smart (ET)~~ Irrigation controllers. All new irrigation systems must include a programmable ~~smart (ET)~~ controller capable of providing the minimum following features:

(1) Multiple irrigation programs with at least three start times per program;
(2) Limiting the irrigation frequency to once every seven (7) days and once every fourteen (14) days; and
(3) Water budgeting features

(n) Operational rain ~~or moisture~~ and freeze shut-off devices capable of setting thresholds for rain and freeze at or above 40 degrees or other technology. All new automatically controlled irrigation systems must include operational sensors or other technology designed to inhibit or interrupt operation of the irrigation system during periods of freezing weather and moisture or rainfall. Freeze and rain ~~or moisture~~ shut-off technology must be installed according to the manufacturer's published recommendations. Repairs to existing automatic irrigation systems that require replacement of an existing controller must include an operational sensor with the capability to set thresholds for both rain and freezing temperatures at or above 40 degrees or other technology designed to inhibit or interrupt operation of the irrigation system during periods of freezing weather at or above 40 degrees and ~~moisture or~~ rainfall.

(o) Isolation valve. All new irrigation systems must include an isolation valve between the water meter and the backflow prevention device.

(p) Depth coverage of piping. Piping in all irrigation systems must be installed according to the manufacturer's published specifications for depth coverage of piping.

(1) If the manufacturer has not published specifications for depth coverage of piping, the piping must be installed to provide minimum depth coverage of six 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 i1Tigation plan. If the area being irrigated has rock at a depth of six 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.
(2) If a utility, man-made structure or roots create an unavoidable obstacle, which makes the six-inch depth coverage requirement impractical, the

piping shall be installed to provide a minimum of two inches of select backfill between the top of the pipe and the natural grade of the topsoil.

(3) All trenches and holes created during installation of an irrigation system must be backfilled and compacted to the original grade.

(q) Wiring irrigation systems.

(1) Underground electrical wiring used to connect a ~~smart (ET)~~ controller to any electrical component of the irrigation system must be listed by Underwriters Laboratories as acceptable for burial underground.

(2) Electrical wiring that connects any electrical components of an irrigation system must be sized according to the manufacturer's recommendation.

(3) Electrical wire splices which may be exposed to moisture must be waterproof as certified by the wire splice manufacturer.

(4) Underground electrical wiring that connects a ~~smart (ET)~~ controller to any electrical component of the irrigation system must be buried with a minimum of six (6) inches of select backfill.

(r) 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, shall be connected to an irrigation system. If a hose bib (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 bib must be installed using a quick coupler key on a quick coupler installed in a covered purple valve box and the hose bib and any hoses connected to the bib must be labeled "non-potable, not safe for drinking." An isolation valve must be installed upstream of a quick coupler connecting a hose bib to an irrigation system.

(s) Beginning January 1, 2010, either a licensed irrigator or a licensed irrigation technician shall be on-site at all times while the landscape irrigation system is being installed. When an irrigator is not onsite, the irrigator shall be responsible for ensuring that a licensed irrigation technician is on-site to supervise the installation of the irrigation system.

Sec. 18-383. Initial Inspection

The City of Frisco will conduct an initial inspection of all p1pmg, valves, em1ss1on devices, and other irrigation system components prior to backfilling any part of the system.

Sec. 18-384. Completion of Irrigation System Installation

Upon completion of the irrigation system, the irrigator or 1mgation technician who provided supervision for the on-site installation shall be required to complete four the following items:

(1) a final "walk through" with the irrigation system's owner or the owner's representative to explain the operation of the system. The "walk through" must include, but not be limited to, visual inspection of all zones and emission devices operating for not less than two minutes, a review of the currently programmed, as well as seasonal, watering schedule, list of the components that require maintenance and the recommended frequency of service, location of the irrigation ~~smart (ET)~~ controller and associated manufacturer's manual, water meter, isolation valve, backflow preventer, sprinkler heads, drip or pressure compensating tubing irrigation, rain or moisture and freeze shut-off device, irrigation plan showing the installed system, maintenance checklist, etc.

(2) the maintenance checklist on which the irrigator or irrigation technician shall obtain the signature of the irrigation system's owner or owner's representative and shall sign, date, and seal the checklist. If the irrigation system's owner or owner's representative is unwilling or unable to sign tl1e 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 irrigator and provided to the Building Official or the official city representative. The items on the maintenance checklist shall include but are not limited to:

(i) irrigator's name, license number, company name, telephone number, and the dates of the warranty period.

(ii) the manufacturer's manual for the irrigation ~~smart (ET)~~ controller;

(iii) 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;

(iv) 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; and

(v) 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."

(3) A permanent sticker which contains the irrigator's name, license number, company name, telephone number and the dates of the warranty period shall be affixed to each irrigation ~~smart (ET~~) controller installed by the irrigator or irrigation technician. The information contained on the sticker must be printed with waterproof ink.

(4) The irrigation plan indicating the actual installation of the system must be provided to the irrigation system's owner or owner representative and to the Building Official or the official city representative.

(5) In the event that the irrigation system owner or owner representative is a residential home builder and the new residential home with the associated irrigation system will be sold for the first time to a new homeowner, a copy of the irrigation plan indicating the actual installation of the system and corresponding maintenance checklist must be placed within or attached to the irrigation ~~smart (ET)~~ controller. A copy of the irrigation plan and corresponding maintenance checklist must be placed within or attached to the irrigation ~~smart (ET)~~ controller if the irrigation system is sold or transferred from the new home owner or subsequent owners.

Sec. 18-385. Maintenance, Alteration, Repair, or Service of Irrigation Systems

(a) The licensed 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.

(b) 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.

(c) 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 Uniform Plumbing Code (Section 316) or the International Plumbing Code (Section 605).

(d) When maintenance, alteration, repair or service of an irrigation system involves excavation work at the water meter or backflow prevention device, an isolation valve shall be installed, if an isolation valve is not present.

Sec. 18-386. Reclaimed Water

Reclaimed water may be utilized in landscape irrigation systems if:

(]) there is no direct contact with edible crops, unless the crop is pasteurized before consumption;
(2) the irrigation system does not spray water across property lines that do not belong to the irrigation system's owner;
(3) the irrigation system is installed using purple components;
(4) the domestic potable water line is connected using an air gap or a reduced pressure principle backflow prevention device, in accordance with Title 30, Texas Administrative Code, Section 290.47(i) (relating to Appendices);
(5) a minimum of an eight (8) inch by eight (8) inch sign, in English and Spanish, is prominently posted on/in the area that is being irrigated, that reads, "RECLAIMED WATER - DO NOT DRINK" and "AGUA DE RECUPERACION - NO BEBER"; and
(6) backflow prevention on the reclaimed water supply line shall be in accordance with the regulations of the City's water provider.

Sec. 18-387. Advertisement Requirements

(a) At least one vehicle must remain on-site and clearly visible when used in the performance of irrigation installation, maintenance, alteration, repair, or service must display the irrigator's license number in the form of "LI " in a contrasting color of block letters at least two (2) inches high, on both sides of the vehicle.

(b) All forms of written and electronic advertisements for irrigation services must display the irrigator's license number in the form of "LI ." Any form of advertisement, including business cards, and estimates which displays an entity's or individual's name other than that of the licensed irrigator must also display the name of the licensed irrigator and the licensed irrigator's license number. Trailers that advertise irrigation services must display the irrigator's license number.

Sec. 18-388. Contracts

(a) All contracts to install an irrigation system must be in writing and signed by each party and must specify the irrigator's name, license number, business address, current business telephone numbers, the date that each party signed the agreement, the total agreed price, and must contain the statement, "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's website is: www. tceq.state.tx.us." All contracts must include the irrigator's seal, signature, and date.

(b) All written estimates, proposals, bids, and invoices relating to the installation or repair of an irrigation system(s) must include the irrigator's name, license number, business address, current business telephone number(s), and the statement: "Irrigation in Texas is regulated by the Texas Commission On Environmental Quality (TCEQ) (MC-178), P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's web site is: www.tceq.state.tx.us."

(c) An individual who agrees by contract to provide irrigation services as defined in Title 30, Texas Administrative Code, Section 344.30 (relating to License Required) shall hold an irrigator license issued under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations) unless the contract is a pass-through contract as defined in Title 30, Texas Administrative Code, Section 344.1(36) (relating to Definitions). If a pass-through contract includes irrigation services, then the irrigation portion of the contract can only be performed by a licensed irrigator. If an irrigator installs a system pursuant to a pass-through contract, the irrigator shall still be responsible for providing the irrigation system's owner or through contract, the irrigator shall still be responsible for providing the irrigation system's owner or owner's representative a copy of the warranty and all other documents required under this chapter. A pass-through contract must identify by name and license number the irrigator that will perform the work and must provide a mechanism for contacting the irrigator for irrigation system warranty work.

(d) The contract must include the dates that the warranty is valid.

Sec. 18-389. Warranties for Systems

(a) On all installations of new or major repair of irrigation systems, an irrigator shall present the irrigation system's owner or owner's representative with a written warranty covering materials and labor furnished in the new installation of the irrigation system. The irrigator shall be responsible for adhering to tem1s of the warranty. If the irrigator's warranty is Jess than the manufacturer's warranty for the system components, then the irrigator shall provide the irrigation system's owner or the owner's representative with applicable information regarding the manufacturer's warranty period. The warranty must include the irrigator's seal, signature, and date. If the warranty is part of an irrigator's contract, a separate warranty document is not required.

(b) An irrigator's written warranty on new irrigation systems must specify the irrigator's name, business address, and business telephone number(s), must contain the signature of the irrigation system's owner or owner's representative confirming receipt of the warranty and must include the statement: "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 130897, Austin, Texas 78711-3087. TCEQ's website is: www.tceq.state.tx.us."

(c) On all maintenance, alterations, repairs, or service to existing irrigation systems, an irrigator shall present the irrigation system's owner or owner's representative a written document that identifies the materials furnished in the maintenance, alteration, repair, or service.

Sec. 18-390. Duties and Responsibilities of City Irrigation Inspectors

A licensed irrigation inspector or plumbing inspector shall enforce the ordinance of the City, and shall be responsible for:

(l) verifying that the appropriate permits have been obtained for an irrigation system and that the irrigator and installer or irrigation technician, if applicable, are licensed;
(2) inspecting the irrigation system prior to back-filling;
(3) determining that the irrigation system complies with the requirements of this Ordinance;
(4) determining that the appropriate backflow prevention device was installed, tested, and test results provided to the City;
(5) providing the final walk-through of the irrigation system;
(6) investigating complaints related to irrigation system installation, maintenance, alteration, repairs, or service of an irrigation system and advertisement of irrigation services; and
(7) maintaining records according to this Ordinance.

Sec. 18-391. Fees

The fee for this permit for each individual residential irrigation system shall be $185.00 payable to the City of Frisco and submitted to the Building Official or the official city representative at the time of application. The non-residential fee for each individual irrigation system will be $250.00 for the first controller, an additional $175.00 for a second controller, with a total not to exceed $500.00 for any individual system and shall be submitted likewise. This fee shall include plan review and approval, one inspection prior to back-filling, and one final walk-through inspection. Additional inspections will be $50.00 each and payable prior to the issuance of final approval.

Sec. 18-392. Enforcement and Penalty

(a) The City shall have the power to administer and enforce the provisions of this section as may be required by governing law. Any person, firm, corporation or agent who shall violate a provision of this code, or fails to comply therewith, or with any of the requirements thereof, is subject to suit for injunctive relief as well as prosecution for criminal violations. Any violation of the ordinance codified in this section is declared to be a nuisance.

(b) Any person violating any provision of this section shall, upon conviction, be fined a sum not exceeding two thousand dollars ($2000.00). Each day that a provision of this section is violated shall constitute a separate offense. An offense under this section is a Class C misdemeanor, punishable by a fine of up to two thousand dollars ($2000.00).

(c) Nothing in this section shall be construed as a waiver of the City's right to bring a civil action to enforce the provisions of this section and to seek remedies as allowed by law, including, but not limited to the following:

(1) Injunctive relief to prevent specific conduct that violates the ordinance or to require specific conduct that is necessary for compliance with the ordinance; and

(2) Other available relief.

SECTION 3. Savings/Repealing. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict; but such repeal shall not abate any pending prosecution for violation of the repealed ordinance, nor shall the repeal prevent a prosecution from being commenced for any violation if occurring prior to the repeal of the ordinance. Any remaining portions of said ordinances shall remain in full force and effect.

SECTION 4. Severability. Should any section, subsection, sentence, clause or phrase of this Ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. Frisco hereby declares that it would have passed this Ordinance, and each section, subsection, sentence, clause or phrase thereof regardless of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional or invalid.

SECTION 5. Effective Date. This Ordinance shall become effective from and after its adoption and publication as required by the City Charter and by law.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS, on this 02nd day of December, 2008.

SEAL OF THE CITY OF FRISCO TEXAS

Maher Maso

Maher Maso, Mayor

ATTESTED TO AND CORRECTLY RECORDED BY:

L. Barrera for Ron Patterson

Ron Patterson,
Interim City Secretary

APPROVED AS TO FORM:

Claire E. S

Abernathy Roeder Boyd & Joplin P.C.
Claire E. Swann, City Attorneys

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