ARTICLE 13.12 IRRIGATION SYSTEM INSTALLATION AND OPERATION

Sec. 13.12.001 Definitions

The following words and terms, when used in this article, 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 nonpressure 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 backsiphonage. 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 backsiphonage prevention assembly.

Backflow prevention. The mechanical prevention of reverse flow, or backsiphonage, of nonpotable 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.

Business day. Any weekday (8:00 a.m. to 5:00 p.m.) that is not an approved holiday for the city.

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 performing 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 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. Plans may be paper or electronic in PDF format.

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, loam, 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 the 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 a nonlicensed irrigation 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, 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 mainline 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. Major alterations also have taken place if work on the irrigation system will enlarge the total length of lateral or mainline pipe by 25 percent, if it the work adds zones to the system, or if at least 25 percent of the system is being replaced with the same layout.

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 backsiphonage prevention assembly.

Reclaimed water. Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use based on TCEQ regulations, 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.

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. 13.12.002 State rules governing irrigation

With this article the city adopts the rules of the Texas State Irrigation Code, 30 TAC 344, as its local rules for landscape irrigation design, construction and operation, as well as irrigator licensing, training, and conduct, and owner responsibility where applicable. Where the city rules exceed the state code, the city rules shall be followed.

Sec. 13.12.003 Valid license required

(a) 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.

(b) Exemptions: Notwithstanding anything contained in this article to the contrary, a property owner is not required to be licensed in accordance with Texas Occupations Code, title 12, §1903.002(c)(1) 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 standards contained in title 30, Texas Administrative Code, chapter 344 regarding spacing, water pressure,

spraying water over impervious materials, rain or moisture shut-off devices or other 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.

Sec. 13.12.004 Registration required

Any professional irrigator doing work in the city must be registered with the city development services department. Registration shall be open to any irrigator with a valid irrigation license from the Texas Commission on Environmental Quality.

Sec. 13.12.005 Revocation of registration

Failure to follow rules contained in the state code or this article may be seen as cause to revoke or suspend their registration.

Sec. 13.12.006 Permit required

Prior to installing an irrigation system within the city or the city's ETJ, including systems on private wells and those which use Lake LBJ as a water source, the person installing the system is required to obtain a permit from the city. Any plan approved for a permit must be in compliance with requirements of this article. Before a permit will be issued, an irrigation plan must be submitted by the licensed irrigator performing the work to the city's water conservation inspector, or other designee of the director of the utilities for approval. After approval, a fee will be set and the permit issued after payment from the irrigator applying for the permit. After approval, a fee will be set, and the permit issued after payment from the irrigator applying for the permit. In addition to the permit fee, the irrigator must provide a deposit to be refunded after the system passes inspection. The irrigator will be charged for each additional inspection required to ensure compliance, which will be deducted from the deposit. Permit fee and deposit are defined in the city's Code of Ordinances appendix A, fee schedule article A3.00 building and development fees.

Sec. 13.12.007 Exemptions

(a) An irrigation system that is on an on-site sewage disposal system, as defined by section 355.002, Health and Safety Code; or

(b) An irrigation system used on or by an agricultural operation as defined by section 251.002, Agriculture Code.

Sec. 13.12.008 Permits for additions or other changes to existing irrigation systems

The city requires a permit if work on the irrigation system will enlarge the total length of lateral or mainline pipe by 25 percent, if the work adds zones to the system, or if at least 25 percent of the system's pipe is being replaced with the same layout. A permit is not needed for retrofitting of irrigation heads on an existing lateral line which is left in place, regardless of whether sprinkler head spacing is altered.

Sec. 13.12.009 Permit fee refunded for retrofits to improve efficiency

If retrofits or changes to an irrigation system correct a previous failure to properly zone an existing irrigation system; or if it replaces rotors or rotator heads, micro-sprays or sprays on a planting bed with buried dripline irrigation and reduces consumption while preserving plant health at previous levels; or reduces consumption rates through pressure reduction; permit fees will be refunded if before and after inspections verify improved efficiency.

Sec. 13.12.010 Inspection required

When the system is complete the irrigator will make a request in writing for an inspection from the city's water conservation inspector, or other designee of the director of the utilities for approval. If no request is received within ten business days of the city's receipt of a backflow prevention assembly test, the owner's water connection may be terminated from operating.

Sec. 13.12.011 Failed inspections

If a system fails inspection, the irrigator has 15 days to correct the deficiencies. The property owner will be notified of the failure and the deficiencies. The irrigator and the owner will be notified that the water service may be terminated if deficiencies are not corrected.

Sec. 13.12.012 Irrigation job abandonment

In cases where an irrigator abandons a job after starting work, any new irrigator taking over the job for completion must apply for and obtain an irrigation permit. The irrigator completing the job must warrant all work done on the system by the new irrigator.

Sec. 13.12.013 Backflow prevention methods and devices

(a) 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; or the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California; or the International 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.

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

(1) An air gap may be used if:

(A) There is an unobstructed physical separation; and

(B) The distance from the lowest point of the water supply outlet to the flood rim of the fixture or assembly into which the outlet discharges is at least one inch or twice the diameter of the water supply outlet, whichever is greater.

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

(A) The device is installed at a minimum of 12 inches above ground in a location that will ensure that the assembly will not be submerged; and

(B) Drainage is provided for any water that may be discharged through the assembly relief valve.

(3) Pressure vacuum breakers may be used if:

(A) No backpressure condition will occur; and

(B) The device is installed at a minimum of 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.

(4) Atmospheric vacuum breakers may be used if:

(A) No backpressure will be present;

(B) There are no shutoff valves downstream from the atmospheric vacuum breaker;

(C) The device is installed at a minimum of six 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;

(D) There is no continuous pressure on the supply side of the atmospheric vacuum breaker for more than 12 hours in any 24-hour period; and

(E) 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.

(c) Backflow prevention devices used in applications designated as health hazards must be tested by a TCEQ licensed backflow prevention assembly tester at installation and annually thereafter.

(d) 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 by a TCEQ licensed backflow prevention assembly tester upon installation and test cocks are used for testing only. Any assembly on an irrigation system must be tested after installation by a TCEQ licensed backflow prevention assembly tester and then every five-year period thereafter. After each test, a report must be submitted to the city's backflow electronic recordkeeping contractor. If no contractor is employed by the city at the time of the test, the test record must be submitted to the city utilities department.

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

(1) Test cocks must be plugged, except when the double check valve is being tested;

(2) Test cock plugs must be threaded, watertight, and made of nonferrous material;

(3) A y-type strainer is installed on the inlet side of the double check valve;

(4) There must be a clearance between any fill material and the bottom of the double check valve to allow space for testing and repair; and

(5) There must be space on the side of the double check valve to test and repair the double check valve.

(f) 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.

(g) 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.

(h) 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 local water purveyor and the irrigation system's owner or owner's representative within ten business days of testing of the backflow prevention device.

Sec. 13.12.014 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 irrigation 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) Residential irrigation systems may not have a valve or other connection which would allow their irrigation system source to be switched between Lake LBJ or any another source and city potable water. Any existing system with such a connection at the time of adoption of this article must remove that connection.

(e) 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 onsite 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. 13.12.015 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 article.

Sec. 13.12.016 Landscaping

(a) A minimum soil depth of six inches of soil which includes organic content such as humus or compost for all turf and planting bed areas is required for all new residential construction.

(b) No irrigation will be permitted to be installed on gravel or mulch beds with no plants. If more than 50 percent of the plants in a planting bed are more than 10 feet apart, irrigation must be done with point drip. Bubblers may be used on widely spaced individual shrubs in beds. Irrigation heads may not emit

across gravel borders to reach turf.

(c) Landscape irrigation systems must be kept in working order and not create uneven or wasteful irrigation patterns.

Sec. 13.12.017 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 (PDF file format) of the irrigation plan must be on the jobsite 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 article; 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 drawn to scale. The plan must be legible and 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 and indicate whether each zone is turf or a planting bed;

(3) A north arrow;

(4) A legend;

(5) The zone flow measurement for each zone;

(6) Location and type of each:

(A) Controller; and

(B) Sensor (for example, but not limited to, rain, moisture, wind, flow, or freeze);

(7) Location, type, and size of each:

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

(B) Backflow prevention device;

(C) Water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip, or micro-sprays; This information must include the length and direction of spray arcs.

(D) Valve, including but not limited to, zone valves, master valves, and isolation valves;

(E) Pressure regulation component; and

(F) Mainline and lateral piping;

(8) The scale used; and

(9) The design pressure on the system and the calculations to reach that number.

Sec. 13.12.018 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.

(b) Spacing.

(1) 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 areas 10 feet or wider must have heads spraying back to achieve head to head coverage.

(2) New irrigation systems shall not utilize above-ground spray emission devices in landscapes that

are less than 48 inches not including the impervious surfaces in either length or width and 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 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. Exemption of such surfaces is subject to a determination by the irrigation inspector.

(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, but are not limited to, flow control valves, a pressure regulator, or pressure compensating spray 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 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, soil conditions, and hydrological requirements.

(f) All irrigation of planting beds on city potable water must install drip irrigation. Micro-sprays or micro-rotors may not be substituted for drip irrigation. Systems on lake water are not required to have drip irrigation systems because of the risk of clogging from lake debris. Systems with dripline or bubblers may not be converted to pop-ups spray heads, any type of rotary head, or micro-sprays or rotors, unless they are on lake water or being converted to lake water.

(g) 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.

(h) 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.

(i) Master valve. When provided, a master valve shall be installed on the discharge side of the backflow prevention device on all new installations.

(j) 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).

(k) Rain or moisture shut-off devices or other technology. All new automatically controlled irrigation systems must include sensors or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall. 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 a sensor or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall.

(l) Isolation valve. All new irrigation systems must include an operational isolation valve between the water meter and the backflow prevention device. If the backflow prevention device is a double check valve backflow preventer in a ground box, a properly installed y strainer must be located between the isolation valve and the backflow preventer.

(m) 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 irrigation 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, manmade structure, or roots create an unavoidable obstacle, which makes the sixinch

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.

(n) Wiring irrigation systems.

(1) 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 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 an automatic controller to any electrical component of the irrigation system must be buried with a minimum of six inches of select backfill.

(o) Water contained within the piping of an irrigation system is deemed to be nonpotable. 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 "nonpotable, not safe for drinking." An isolation valve must be installed upstream of a quick coupler connecting a hose bib to an irrigation system.

(p) Either a licensed irrigator or a licensed irrigation technician shall be onsite 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 onsite to supervise the installation of the irrigation system.

(q) Property boundaries. Spray arcs may not cross property boundaries.

(r) Irrigation of areas left in the natural state and gravel beds. Areas not landscaped and deemed "natural" and not maintained by frequent mowing or trimming may not have permanent irrigation systems installed on them.

(s) Runoff. Property owners may not allow runoff to leave their property.

(t) Excessive run times. Property owners may not run sprinklers for excessively long run times for current weather conditions. The irrigation inspector may require the owner of an irrigation system to reduce the length of runs if the inspector determines the times are excessive under conditions present at the time based on precipitation rates at the site and manufacturer and industry standards applying to the irrigation system.

Sec. 13.12.019 Watering schedule

(a) All watering, whether by automatic irrigation systems and those using hose-end sprinklers, must adhere to watering schedules set by the city administrators with consent of the city council.

(b) New installation of turf and landscaping. New landscaping is not subject to the city watering schedule for 30 days after installation. Property owners must notify the irrigation inspector of the start date for the watering. The city may restrict or ban watering of new turf and landscaping in times of drought.

(c) Traffic medians planted only in turf, or turf and established trees, may never be watered more than 75 minutes total in a seven-day period if under multi-stream rotary heads; 65 minutes over seven days if under single-stream rotary heads; and no more than 35 minutes over seven days if under pop-up spray heads.

Sec. 13.12.020 Completion of irrigation system installation

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

(1) A final “walk through” with the irrigation system’s owner or the owner’s representative to explain the operation of the system;

(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 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 irrigator. The items on the maintenance checklist shall include but are not limited to:

(A) The manufacturer’s manual for the automatic controller, if the system is automatic;

(B) 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;

(C) 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

(D) 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 automatic controller installed by the irrigator or irrigation technician. If the irrigation system is manual, the sticker shall be affixed to the original maintenance checklist. The information contained on the sticker must be printed with waterproof ink and include: [sic]

(4) The irrigation plan indicating the actual installation of the system must be provided to the irrigation system’s owner or owner representative.

Sec. 13.12.021 Maintenance, alteration, repair, or service of irrigation systems

(a) The licensed irrigator is responsible for all work that such 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. 13.12.022 Alteration of existing landscaping

If an existing landscape under permanent irrigation is altered, the landscape irrigation layout must be altered if the landscape change means the system would otherwise no longer follow [Texas Administrative Code,] chapter 344 rules. Irrigation permit rules must be followed in cases of renovations to landscaping which affect irrigation.

Sec. 13.12.023 Reclaimed water

Reclaimed water may be utilized in landscape irrigation systems if:

(1) 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, if approved by the city and is in accordance with title 30, Texas Administrative Code, section 290.47(i) (relating to appendices);

(5) A minimum of an eight-inch by eight-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”;

(6) Backflow prevention on the reclaimed water supply line shall be in accordance with the regulations of the city and TCEQ’s rules;

(7) The reclaimed water source is permitted to irrigate based on a TCEQ chapter 210 rules and TCEQ issued permit; and

(8) Authorized through a written agreement with the city defined as the sole source of the reclaimed water.

Sec. 13.12.024 Advertisement requirements

(a) All vehicles 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 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.

(c) The name, mailing address, and telephone number of the commission must be prominently displayed on a legible sign and displayed in plain view for the purpose of addressing complaints at the permanent structure where irrigation business is primarily conducted and irrigation records are kept.

Sec. 13.12.025 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 website 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 article. 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. 13.12.026 Warranties for systems

(a) On all installations of new 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 the terms of

the warranty. If the irrigator's warranty is less 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. If a warranty is provided, the irrigator shall abide by the terms. The warranty document must include the irrigator's name and business contact information.

Sec. 13.12.027 Duties and responsibilities of city irrigation inspectors

The city's licensed irrigation inspector, or designated entity shall enforce this article of the city, and shall be responsible for:

(1) 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;

(3) Determining that the irrigation system complies with the requirements of this article;

(4) Determining that the appropriate backflow prevention device was installed, tested, and test results provided to the city;

(5) Investigating complaints related to irrigation system installation, maintenance, alteration, repairs, or service of an irrigation system and advertisement of irrigation services;

(6) Maintaining records according to this article; and

(7) Ensure all parts of this article are enforced.

Sec. 13.12.028 Items not covered by this article

Any item not covered by this article and required by law shall be governed by the Texas Occupations Code, the Texas Water Code, title 30 of the Texas Administrative Code, and any other applicable state statute or Texas Commission on Environmental Quality rule.

Sec. 13.12.029 Fees

The city council may create, and modify from time to time, a schedule of fees for obtaining and renewing an irrigation permit. These fees will be in amounts sufficient to cover the city's costs in issuing and renewing the pe1mits, including, but not limited to, staff time and other overhead costs. This schedule will be kept at the city offices or may be found in appendix A of this code on the city's website: www.horseshoe-bay-tx.gov.

Sec. 13.12.030 Enforcement

(a) The city shall have the power to administer and enforce the provisions of this article 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 article is declared to be a nuisance.

(b) Any person violating any provision of article shall, upon conviction, be fined a sum not exceeding $500.00. Each day that a provision of this article is violated shall constitute a separate offense. An offense under this article is a class C misdemeanor, punishable by a fine of up to $500.00.

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

(1) Injunctive relief to prevent specific conduct that violates this article or to require specific conduct

that is necessary for compliance with this article; and

(2) Other available relief.

(Ordinance 2019-27 adopted 4/16/19)