



CITY OF CONROE
COMMUNITY DEVELOPMENT

(936) 522-3610

IRRIGATION INFORMATION

“Should I have a separate irrigation water meter for residence?” The answer to this is most likely “no”. Many home owners see they are being charged sewer charges on their water which is used for irrigation purposes and they apply for a separate water tap for their irrigation. What they do not realize is residential water usage has a “sewer cap” which means the city is limited to what they can charge for sewer. Whether you use 10,000 gallons or 100,000 gallons, the sewer charge is capped at a minimal fee. A separate water tap could cost as much as \$1,000 and with another meter, there will be another minimum fee each month whether you use water or not. When all things are considered, it doesn’t usually pay to have a separate water meter for residential irrigation. “Should I have a separate irrigation water meter for my commercial business?” The answer to this is most likely “yes”. Commercial water usage does not have a sewer cap. If you use 10,000 gallons to irrigate, you will be charged sewer for all 10,000 gallons unless you have a separate irrigation meter. For water saving tips and techniques visit the Lone Star Groundwater Conservation District at www.lonestargcd.org

- It shall be unlawful for any person to install, alter, or modify an irrigation system without first obtaining an irrigation permit through the community development department.
- Irrigators must be licensed with the State and registered with the City of Conroe before a permit can be secured. Please see Chapter 14, Article X of the Conroe Code of Ordinances for complete details.
- All systems shall be designed so as not to exceed a water velocity of 5 feet per second and shall be designed, installed, maintained, altered, repaired, serviced, and operated in a manner that promotes water conservation while providing complete head to head coverage for all areas to be irrigated with the exception of side yard areas less than 10 feet in width.
- Two copies of irrigation plans shall be submitted for review with the permit application. The irrigation plans must be drawn to scale and must include: the irrigator's seal, signature, and date of the signing; major physical features and boundaries of the areas to be irrigated; a North arrow; a legend; zone flow measurements for each zone; location and type of controllers and sensors; location, type, and size of water sources, backflow prevention device, water emission device, valve, pressure regulation component, and main line and lateral piping; scale used; and design pressure, and hydraulic losses. You may use the following link to obtain a detailed plan submittal checklist.
- Plan review and permit processing time varies. The process could take up to 10 working days.
- A copy of the signed customer service agreement (included in this packet) must be submitted.
- Permit fees may be found in Appendix A. of the Conroe Code of Ordinances.
- A copy of the permit must be posted on the job site in a conspicuous location at all times during the installation of the system.

- Sch. 40 PVC pipe or better must be used from the point of connection to the potable water supply, up to the backflow device.
- SDR 21 PVC pipe or better may be used for other main lines and laterals.
- All PVC joints shall be the cement solvent type with purple primer. Pipe cleaner, and/or clear primer will not be accepted.
- All exposed piping must be insulated, secured, and protected from ultra-violet light deterioration.
- New systems shall not use, and existing systems shall not be modified to use, above-ground spray emission devices in landscapes that are bordered on two or more sides and are less than 48 inches in length or width (not including impervious surfaces). Narrow paved walkways, jogging paths, and similar areas located cemeteries, parks, golf courses, or other public areas may be exempted if the runoff drains into a landscaped area.
- Pop-up spray heads used in new irrigation systems must be direct flow away from a hardscape and shall not be installed closer than four inches from a hardscape.
- Spray heads shall be arranged such that they do not spray water on or over any impervious material.
- All piping from the point of connection, up to the backflow device, must be buried a minimum of 12 inches. All other main lines and laterals shall be buried a minimum of six inches in depth.
- All new irrigation installations shall be equipped with a rain or moisture shut-off device or other technology. Such devices or technology shall be designed and installed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall. Existing irrigation systems that require repairs where the replacement of an existing controller is necessary must be retrofitted with the same rain or moisture shut-off device.
- All irrigation systems shall have a backflow device installed that protects the potable source water supply from cross contamination. The backflow device must be a Pressure Vacuum Breaker (PVB), Reduced Pressure Zone (RPZ), or Double Check Valve (DC) backflow device. For systems where chemicals are induced, or a health hazard exists, an RPZ is the only device allowed.
- A PVB must be installed such that the elevation of the bottom of the device is at least one foot above the highest sprinkler head. An RPZ and DC must be installed a minimum of 12 inches above grade in an accessible box. The box shall be large enough to accommodate testing of the device without removal.
- The backflow device must be tested by a licensed certified tester upon installation and prior to the system being placed in service and for high hazard installations, annually thereafter.
- A copy of the backflow device test report must be attached to the backflow device and available at the time of the piping inspection.
- All inspections must be requested 24 hours in advance. Refer to the Irrigation Inspection Checklist.
- The piping from the point of connection up to the backflow device shall be inspected and approved by the building official or his designee, prior to covering the piping system.
- Please refer to Chapter 14, Article X of the Conroe Code of Ordinances for the complete details on the lawn irrigation ordinance, available online or at the Permit Office at City Hall

SERVICE AGREEMENT IRRIGATION

- 1. PURPOSE.** The CITY OF CONROE is responsible for protecting the drinking water supply from contamination or pollution which could result from improper private water distribution construction or configuration. The purpose of this service agreement is to notify each CUSTOMER of the restrictions which are in place to provide this protection. The utility enforces these restrictions to ensure the public health and welfare. Each CUSTOMER must sign this agreement before the CITY OF CONROE will begin service. In addition, when service to an existing connection has been suspended or terminated, the water system will not re-establish service unless it has a signed copy of this agreement.
- 2. RESTRICTIONS.** The following unacceptable practices are prohibited by State regulations.
- a. No direct connection between the public drinking water supply and a potential source of contamination is permitted. Potential sources of contamination shall be isolated from the public water system by an air-gap or an appropriate backflow prevention device.
 - b. No cross-connection between public drinking water supply and a private water system is permitted. These potential threats to the public drinking water supply shall be eliminated at the service connection by the installation of an air-gap or a reduced pressure-zone backflow prevention device.
 - c. No connection which allows water to be returned to the public drinking water supply is permitted.
 - d. No pipe or pipe fitting which contains more than 8.0% lead may be used for the installation or repair of plumbing at any connection which provides water for human use.
 - e. No solder or flux which contains more than 0.2% lead can be used for the installation or repair of plumbing at any connection which provides water for human use.
- 3. SERVICE AGREEMENT.** The following are the terms of the service agreement between the CITY OF CONROE and (CUSTOMER) _____.
- a. The CITY OF CONROE will maintain a copy of this agreement as Long as the CUSTOMER and/or the premises are connected to the CITY OF CONROE water system.
 - b. The CUSTOMER shall allow his property to be inspected for possible cross-contamination and other potential contamination hazards. These inspections shall be conducted By the CITY OF CONROE or its designated agent prior to initiating new water service; when there is reason to believe that cross-connections or other potential contamination hazards exist; or after any major change to the private water distribution facilities. The inspections shall be conducted during the CITY OF CONROE'S normal business hours.
 - c. The CITY OF CONROE shall notify the CUSTOMER in writing of any cross-connection or other potential contamination hazard which has been identified during the initial inspection or the periodic re-inspection.
 - d. The CUSTOMER shall immediately remove or adequately isolate any potential cross-connections or other potential contamination hazards on his premises.
 - e. The CUSTOMER shall, at his expense, properly install, test, and maintain any backflow prevention device required by the CITY OF CONROE. Copies of all testing and maintenance records shall be provided to the CITY OF CONROE.
- 4. ENFORCEMENT.** If the CUSTOMER fails to comply with the terms of the SERVICE AGREEMENT, the CITY OF CONROE shall, at its option, terminate service or properly install, test, and maintain an appropriate backflow prevention device at the service connection. Any expenses associated with the enforcement of this agreement shall be billed to the CUSTOMER.

Customer Signature: _____ Date: _____

Customer Name: _____ Address: _____

LANDSCAPE IRRIGATION INSPECTIONS CHECKLIST

The following checklist is intended to be a guide that outlines the minimum requirements for landscape irrigation inspections. Additional items may be required as each system is unique. All systems shall be installed in a manner that promotes water conservation and in accordance with the approved plans.

- Licensed Irrigator or Irrigation Technician needs to be on sight during the inspection.
- Approved plan set needs to be on sight.
- Heads, valves, rain sensor, and backflow device should be placed according to approved plan.
- Any residual pressures as noted on the hydraulic loss statements for each zone shall be regulated by a pressure regulating devices or pressure regulated emitters so as not to exceed the manufactures recommended operating pressure.
- No above-ground spray emission devices to be placed in landscapes less than 48 inches.
- Heads are not to be installed closer than 4 inches to any hardscape, and cannot spray water on or over impervious materials.
- I Pipe must be buried a minimum of 6 inches deep.
- Maintenance checklist as per TCEQ subchapter F: 344.63 1-4.
- Backflow device should be insulated with the certificate attached to it at time of inspection.

For additional information, please refer to the irrigation information page on our website. Or you may request a paper copy from our office. Any specific questions regarding irrigation plan review or system installation should be addressed to the Building Official.

IRRIGATION SYSTEMS PLAN REVIEW CHECKLIST

All systems shall be designed in a manner that promotes water conservation while providing complete head to head coverage for all areas to be irrigated. All systems shall be designed so as not to exceed a water velocity of 5 feet per second. Prior to submitting irrigation plans for permit and approval, please make sure the plans contain all of the information below. Incomplete plans and or improperly designed systems will not be approved.

- Plans drawn to scale with the scale used properly identified.
- Plans include the irrigator's seal, signature, and date of signing.
- North arrow shown.
- Plans include a legend that shows symbols and descriptions for each device and emitter used. Descriptions should include the brand, model number, size, type, and the manufacture's recommended minimum pressure required for each device.
- Property lines and all major physical features and boundaries to be irrigated shown.
- Topographical information such as contour lines, and radical changes in elevations included.
- Head to head coverage provided for all areas to be irrigated with the exception of side lot areas less than 10 feet in width.
- All areas not to be irrigated properly identified.
- All zones properly identified and zone flow measurements included.
- Meter size/location and the actual static pressure available for the site shown.
- All components and their sizes shown and properly identified such as but not limited to all main line and lateral pipe, water meter, pressure regulating devices, backflow device, controllers, rain sensor, zone valves, and emitters.
- Any enlarged details necessary to clarify a particular installation requirement.
- Hydraulic loss statement for each zone. The statement should include:
 - The available working pressure, All pressure losses from elevation, pipe, valves, and other appurtenances; The minimum pressure required for the type of emitter based from the manufacture's recommendation;
 - The total design pressure. (All pressure losses plus minimum required pressure.)
 - The residual pressure. (Available working pressure minus the design pressure.) Please be advised that excess residual pressures must be regulated.

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