

The Texas Natural Resource Conservation Commission (commission) adopts the amendments to §§344.1, 344.10, 344.49, 344.58 - 344.60, 344.72, 344.73, 344.75, 344.77, 344.96. The commission also adopts new §344.4.

The commission also adopts the repeal of §§344.2, 344.20, 344.23, 344.26 - 344.30, 344.34, 344.37 - 344.43, 344.46, 344.50, 344.51, 344.55 - 344.57, and 344.80 - 344.85.

In addition, the commission adopts §§344.4, 344.58, 344.73, and 344.75 *with changes* to the proposed text as published in the September 28, 2001 issue of the *Texas Register* (26 TexReg 7507). Sections 344.1, 344.10, 344.49, 344.59, 344.60, 344.72, 344.77, and 344.96; and the repeal of 334.2, 344.20, 344.23, 344.26 - 344.30, 344.34, 344.37 - 344.43, 344.46, 344.50, 344.51, 344.55 - 344.57, and 344.80 - 34.85 are adopted *without changes* as published in the September 28, 2001 issue of the *Texas Register* (26 TexReg 7507) and therefore will not be republished.

BACKGROUND AND SUMMARY OF FACTUAL BASIS FOR THE ADOPTED RULES

The commission adopts these revisions to Chapter 344 because the licensing requirements for licensed irrigators and licensed installers will be consolidated into one chapter, newly created 30 TAC Chapter 30, Occupational Licenses and Registrations. Newly created Chapter 30 is concurrently adopted in this issue of the *Texas Register*. Chapter 30 will establish uniform procedures for issuing and renewing licenses, setting terms and fees, performing enforcement activities, and training approval for all of the licensing programs managed by the commission staff in the Compliance Support Division (CSD). The existing rules in Chapter 344 specify the minimum standards for designing and installing a landscape

irrigation system, including the permitting of these installations.

The adopted revisions to Chapter 344 are to accommodate the requirement in Texas Water Code (TWC), Chapter 37, which was created by House Bill (HB) 3111, 77th Legislature, 2001. Texas Water Code, Chapter 37, requires the commission to consolidate administrative requirements and establish uniform procedures for the occupational licensing and registration programs administered by the commission. House Bill 3111 requires the commission to establish rules for the occupational licensing programs by December 2001. To achieve this, the commission adopts Chapter 30 to consolidate the administrative requirements for the ten licensing and registration programs administered in the CSD.

The adopted rulemaking will transfer the requirements and procedures for issuing and renewing licenses, setting terms and fees, performing enforcement activities, and approving training for the landscape irrigation licenses because these requirements and procedures will be specified in Chapter 30. Chapter 344 is amended to accommodate the effect of moving the licensing portion. Additionally, Chapter 344 will be amended to reference the licensing requirements according to Chapter 30 and to correct some minor errors in Chapter 344.

SECTION BY SECTION DISCUSSION

The commission has changed the title of Chapter 344 from “Landscape Irrigators” to “Landscape Irrigation,” to clearly define the content of this chapter.

Subchapter A - General Provisions

Section 344.1, Definitions, is revised. The definitions for “Commission,” “Complainant,” and “Executive Director” are deleted because they are defined in Chapter 3 of this title (relating to Definitions). The adopted language for the definition of “Council” deletes “Texas Irrigators” and replaces it with “Irrigator” to comply with Chapter 30. The definition of “Installer” is modified to by adding at the end of the definition, “...who is licensed according to Chapter 30.” The adopted language for the definition of “Irrigation System” adds the sentence at the end of the definition which reads, “The term does not include a system used on or by an agricultural operation as defined by Texas Agricultural Code, §251.002.” This will make this definition agree with the change in the statute. The adopted language for the definition of “Irrigator” deletes subparagraphs (A) and (B) and transfers the language to concurrently adopted new §30.129, Exemptions. This will comply with the change in their location by the change which occurred in the statute. In addition, the adopted language will then add at the end of the remaining definition for irrigator...“who is licensed according to Chapter 30.” The definitions of “Licensed Irrigator” and “Licensed Installer” have been deleted. The license stipulation of the definition is now given under “irrigator” and “installer” in the adopted new title. The definition “Person” is deleted because it is defined in Chapter 3. The definition of “Respondent” is deleted and will not be used in Chapter 30.

Section 344.2, Exemptions, is repealed and transferred to Chapter 30.

New §344.4, License Required, establishes who must be licensed when performing the functions of an irrigator and installer. This addition is necessary to clarify who can perform the functions of the profession of landscape irrigation, and to reference Chapter 30.

Since publication of the proposed rules, the commission has made a grammatical correction in §344.4(a), the word “and” has been changed to “an.” Also since publication of the proposed rules, the commission has changed the word “licensed” to “license” in §344.4(b).

Subchapter B - General Provisions Affecting the Irrigators Advisory Council

The titles of Subchapter B and §344.10, Irrigators Advisory Council, are amended to change the word “Irrigators” to “Irrigator,” to mirror the language in TWC, Chapter 34.

The revision to §344.10(a) is to delete “Texas Irrigators” and replace it with “Irrigator” to comply with the statute. Section §344.10(i) is modified to delete the existing language and replace it with “The council shall hold meetings at the call of the commission or chairman.” Revisions to §344.10(k) are adopted to delete language in the rule which states “by a majority vote at the first meeting each fiscal year” and change it to “by a majority vote.” The revision will comply with the statute and establish that a majority vote will determine the outcome of the election of a chairman.

Subchapter C - Registration/Licensure of Irrigators and Installers

Sections 344.20, 344.23, 344.26 - 344.30, 344.34, 344.37 - 344.43, 344.46, 344.50, 344.51, 344.55 - 344.57 are repealed. These provisions are concurrently adopted in Chapter 30, Subchapters A and D.

Section 344.49 revises the title from “Display of Certificate” to “Display of License.” In addition, within the text of the rule the phrase “certificate of registration” is replaced with “license.” The revisions comply with the statute.

Section 344.58(a) and (b) revise the phrase “certificate of registration” to “license” in the title of the section, as well as the text of the rule. This revision is to comply and mirror the language in Chapter 30. Since publication of the proposed rules, the commission has amended §344.58(a) to add a period at the end of the sentence for grammatical correctness. Section 344.58(c) is amended to delete the phrase “the certificate of registration” and replace it with “their license.” This is to comply with the statute.

Section 344.59(a) is amended to delete the words “...and before issuance of the certificate of registration.” This is to expedite the issuance of the license.

Section 344.60 is amended to replace in the second to last sentence, the word “certificate” with “license” so as to comply with the statute.

Subchapter D - Standards for Water Supply Connections

The adopted new title for this subchapter is “Standards for Landscape Irrigation.” This more clearly defines the content of this subchapter.

Section 344.72, Water Conservation, is amended by adding “All” to replace “It is the policy of the commission” and add the word “shall” to more clearly define the intent of this rule.

Section 344.73 revises the title of “Absence of Local Regulation - Backflow Prevention Devices” to “Approved Backflow Prevention Methods.” The new title more clearly defines the content of this section. The opening paragraph of §344.73 is deleted and replaced with “All irrigation systems connected to a public or private potable water supply must be properly connected through one of the

following backflow prevention methods:” This revision is necessary to establish that all irrigation systems must be properly connected for the protection of the water supplies. Section §344.73(1) is amended to revise the beginning portion of the last sentence by adding “Where atmospheric vacuum breakers are used in an irrigation system....” This revision is for clarity and readability. Since publication of the proposed rules, the commission has amended §344.73(1) to make a grammatical correction changing “back-siphon age” to “back siphonage.” New §344.73(5) introduces the following language for air gap, “An air gap, when used must be installed and maintained in accordance with the standards established in the American Waterworks Association M14 Manual on Cross Connection Control.” This addition is necessary to bring the rules into current standards of cross connection control.

Section 344.75 title is revised from “Required Backflow Prevention Devices” to “Specific Conditions and Backflow Prevention Devices” to more clearly define the contents of this section. Section 344.75(b) is amended to consider systems as “high health hazard” when systems add any chemical substance as opposed to injection devices for introducing toxic substances. This is required to provide protection from chemical substances and to avoid confusion over what is an injection device and what is included in toxic substances. The section requires that systems may only be connected to a potable water supply through the use of only a reduced pressure principle backflow prevention assembly which make this requirement consistent with the requirements of 30 TAC Chapter 290.

Section 344.77, adopted new title “Minimum Standards for Design and Installation of Irrigation Systems” replaces “Minimum Standards for Irrigators/Installers.” The revision clearly describes the

content of this section. Section §344.77(g) deletes the language “The installer” and replaces it with “An individual who installs an irrigation system.” This is necessary to clarify that this provision does not only apply to licensed installers.

Subchapter E - Complaint Process

Sections 344.80 - 344.85 are repealed because the complaint process is administered under 30 TAC Chapters 70 and 80. The sections are redundant and are no longer needed.

Subchapter F - Standards of Conduct for Licensed Irrigators and Installers

Within the title of Subchapter F, the word “Licensed” is removed leaving the title to read, “Standards of Conduct for Irrigators and Installers.” Section 344.96 is amended to add the following language at the end of implied “a,” “..., and honor the warranty,” to specify the requirement to fulfil warranty obligations.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the rules are not subject to §2001.0225. Section 2001.0225 only applies to rules that are specifically intended to protect the environment or reduce risks to human health from environmental exposure. The intent of this rulemaking is to consolidate the requirements for the various occupations licensed or registered by the commission into one chapter, not to protect the environment or human health. Protection of human health and the environment may be a by-product of the rulemaking but it is not the specific intent of the rulemaking. Furthermore, the

rulemaking would not adversely affect, in a material way, the economy, a section of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state, because the rulemaking would simply consolidate existing rule language into one chapter. Thus, the rulemaking does not meet the definition of a “major environmental rule” as defined in Texas Government Code, §2001.0225(g)(3), and thus, does not require a full regulatory impact analysis. The commission invites public comment on the draft regulatory impact analysis determination.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a takings impact assessment for this rulemaking in accordance with Texas Government Code, §2007.43. The following is a summary of that assessment. The specific purpose of the rulemaking is to consolidate the requirements for the various occupations, licensed or registered by the commission into one chapter. The rulemaking would substantially advance this specific purpose by setting forth detailed procedures for obtaining an occupational license or registration including procedures for: the initial application; examinations; and renewal applications.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission has reviewed the adopted rulemaking and found that the rules are neither identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, relating to Actions and Rules Subject to the Texas Coastal Management Program (CMP), nor will they affect any action or authorization identified in §505.11. Therefore, the rulemaking is not subject to the CMP.

HEARING AND COMMENTERS

The commission held a public hearing in Austin on October 11, 2001. The public comment period

closed on October 22, 2001. Written comments were received from the East Texas Irrigation Association (ETIA) and 34 individuals.

RESPONSE TO COMMENTS

Comment on §344.75

The ETIA and 34 individuals recommended that at least periodic testing be required for all backflow prevention devices.

The commission agrees that periodic testing of low hazard devices should be considered to insure continued protection of drinking water. TNRCC is not aware of any test data on which to develop testing frequency; therefore, TNRCC will defer consideration of a change to the rules until information can be developed to address this issue. Annual testing is currently required for “high hazard” devices according to §344.75(b).

STATUTORY AUTHORITY

The amendment and new section are adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The amendment and new section are also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties

under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

SUBCHAPTER A: GENERAL PROVISIONS

§344.1, §344.4

§344.1. Definitions.

The following words and terms, when used in this chapter shall have the following meaning, unless the context clearly indicates otherwise.

(1) **Backflow Prevention** -- The mechanical prevention of reverse flow, or back siphonage, of nonpotable water from an irrigation system into the potable water source.

(2) **Back Pressure** -- Any pressure, regardless of its source, against the outlet side of the backflow prevention device, which exceeds the supply pressure against the inlet side of the device.

(3) **Council** -- The Irrigator Advisory Council.

(4) **Hydraulics** -- The mathematical computation of determining pressure losses and pressure requirements of an irrigation system.

(5) **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 Chapter 30 of this title (relating to Occupational Licenses and Registrations).

(6) **Irrigation system** -- An assembly of component parts permanently installed with and for the controlled distribution and conservation of water for the purpose of irrigating any type of landscape vegetation in any location or for the purpose of dust reduction or erosion control. This includes parts used in the application and installation of drip irrigation systems. The term does not include a system used on or by an agricultural operation as defined by Texas Agricultural Code, §251.002.

(7) **Irrigator** -- A person who sells, designs, consults, installs, maintains, alters, repairs, or services an irrigation system including the connection of such system in and to a private or public, raw or potable water supply system or any water supply, and who is licensed according to Chapter 30.

(8) **Landscape Irrigation** -- The science of applying water to promote and/or sustain growth of plant material or turf.

(9) **Non-toxic Substance** -- Any substance, solid, liquid, or gaseous, which may make the water aesthetically unacceptable but, if ingested, will not cause illness or death and is not considered a health hazard.

(10) **Precipitation Zones** --

(A) Precipitation Zone #1 is defined as the region of Texas requiring the landscape irrigation system to distribute a minimum of .25 inches of water per hour for every hour that the landscape irrigation system is in operation.

(B) Precipitation Zone #2 is defined as the region of Texas requiring the landscape irrigation system to distribute a minimum of .275 inches of water per hour for every hour that the landscape irrigation system is in operation.

(C) Precipitation Zone #3 is defined as the region of Texas requiring the landscape irrigation system to distribute a minimum of .30 inches of water per hour for every hour that the landscape irrigation system is in operation.

(D) Precipitation Zone #4 is defined as the region of Texas requiring the landscape irrigation system to distribute a minimum of .325 inches of water per hour for every hour that the landscape irrigation system is in operation. The precipitation zones defined in paragraphs (A) - (D) of this section are represented as Zones No. 1 - 4 on the following map:

Figure: 30 TAC §344.1(10)(D)

(11) **Toxic Substance** -- Any substance, solid, liquid, or gaseous, which when introduced into the water supply system creates, or may create, a danger to the health and well-being of the consumer.

(12) **Water Conservation** -- The design and installation of an irrigation system which prevents the waste of water, promotes the most efficient use of water and applies the least amount of water required to maintain healthy individual plant material or turf.

§344.4. License Required.

(a) An individual who sells, designs, consults, installs, maintains, alters, repairs, or services an irrigation system, including the connection of such system to any water supply, or represents that they can perform any or all of these functions, must hold an irrigator license issued according to Chapter 30 of this title (relating to Occupational Licenses and Registrations.) An irrigator must comply with the rules contained in this chapter when performing any or all of the above described functions.

(b) An individual who performs the functions of an installer by connecting an irrigation system to any water supply, or represents that they can perform this function, must hold an installer license issued according to Chapter 30 of this title. An installer must work under the direct supervision of a licensed irrigator and comply with the applicable provisions of this chapter when performing this function.

SUBCHAPTER A: GENERAL PROVISIONS

§344.2

STATUTORY AUTHORITY

The repeal is adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The repeal is also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.2. Exemptions.

**SUBCHAPTER B: GENERAL PROVISIONS AFFECTING THE IRRIGATOR ADVISORY
COUNCIL**

§344.10

STATUTORY AUTHORITY

The amendment is adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The amendment is also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.10. Irrigator Advisory Council.

(a) The Irrigator Advisory Council is composed of nine members appointed by the commission. Appointments to the council will be made without regard to the race, creed, sex, religion, or national origin of the appointees. The purpose of the council is to give the commission the benefit of the members' collective business, environmental, and technical expertise and experience with respect to matters relating to the licensing of landscape irrigators, and installers. The council has no

executive or administrative powers or duties with respect to the operation of the commission, and all such powers and duties rest solely with the commission.

(b) Six members of the council must be licensed irrigators who are residents of this state, experienced in the irrigation business, and conversant in irrigation methods and techniques.

(c) Three members must be representatives of the public. A person is not eligible for appointment as a public member if the person or the person's spouse:

(1) Is licensed by an occupational regulatory agency in the field of irrigation; or

(2) Is employed by, participates in the management of, or has, other than as a consumer, a financial interest in a business entity or other organization related to the field of irrigation.

(d) A council member or an employee of the commission connected with the administration of this section may not be an officer, employee, or paid consultant of a trade association in the irrigation industry and may not be related within the second degree by affinity or consanguinity to a person who is an officer, employee, or paid consultant of a trade association in the irrigation industry.

(e) A person who, because of the person's activities on behalf of a trade or professional association in the irrigation industry, is required to register as a lobbyist under Chapter 305, Texas Government Code, may not serve as a member of the council.

(f) It is grounds for removal from the council if a member:

(1) Does not meet, at the time of the appointment, the qualifications required by subsection (b) or (c) of this section for appointment to the council;

(2) Does not maintain during service on the council the qualifications required by subsection (b) or (c) of this section for appointment to the council;

(3) Violates a prohibition prescribed by subsection (d) or (e) of this section; or

(4) Fails to attend at least one-half of the regularly scheduled meetings held each year, excluding meetings held when the person was not a council member.

(g) The members of the council serve six-year terms, with the terms expiring February 1 of each odd-numbered year.

(h) A member of the council is entitled to a per diem as set by legislative appropriation for each day that the member engages in the business of the council. A member is entitled to reimbursement for travel expenses, including expenses for meals and lodging, as provided for in the General Appropriations Act.

- (i) The council shall hold meetings at the call of the commission or chairman.

- (j) A majority of the council constitutes a quorum for conducting business.

- (k) The council will elect a chairman by a majority vote.

SUBCHAPTER C: REGISTRATION/LICENSURE OF IRRIGATORS AND INSTALLERS

**§§344.20, 344.23, 344.26 - 344.30, 344.34, 344.37 - 344.43, 344.46, 344.50, 344.51,
344.55 - 344.57**

STATUTORY AUTHORITY

The repeals are adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The repeals are also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.20. Eligibility for Certificates of Registration.

§344.23. Applications for Certificates of Registration.

§344.26. Application and Examination Fees; Form of Payment.

§344.27. Application Processing.

§344.28. Determination of Application for Registration Under Reciprocity.

§344.29. Incomplete Application Returned.

§344.30. Rejection of Application.

§344.34. Eligibility for Written Examinations.

§344.37. Notification of Examination Date, Time, and Place.

§344.38. Appearance for Examination; Failure to Appear.

§344.39. Examination Conditions.

§344.40. Grading; Minimum Passing Score.

§344.41. Notification of Examination Results and Performance.

§344.42. Reexamination; Fee.

§344.43. Issuance of Certificate.

§344.46. Description of Certificate.

§344.50. Replacement of Certificate.

§344.51. Expiration of Certificate.

§344.55. Notice of Certificate Expiration; Change of Address.

§344.56. Renewal of Certificate; Same Registration Number.

§344.57. Failure To Renew Certificate of Registration; Notice; Penalty.

**SUBCHAPTER C: REQUIREMENTS FOR LICENSED IRRIGATORS AND LICENSED
INSTALLERS**

§§344.49, 344.58 - 344.60

STATUTORY AUTHORITY

The amendments are adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The amendments are also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.49. Display of License.

Every person holding a license must display it at the person's place of business or employment and be prepared to substantiate the annual renewal for the current year.

§344.58. Unauthorized Use of License.

- (a) Only a licensed irrigator or licensed installer may use or attempt to use the license.
- (b) Anyone who uses or attempts to use the license of someone else who is a licensed irrigator or licensed installer violates Texas Water Code, Chapter 34, and this chapter.
- (c) Any licensed irrigator or licensed installer who authorizes or allows anyone else to use their license to act as a licensed irrigator or licensed installer violates this chapter.

§344.59. Seal Required.

- (a) Each licensed irrigator, upon registration, must obtain a seal or a rubber stamp, as described in §344.60 of this title (relating to Seal and Rubber Stamp Facsimile Design), of the design authorized by the commission. The seal must be placed on all professional documents, including maps, plans, designs, drawings, and specifications, issued by a licensed irrigator for use in this state.
- (b) Each licensed irrigator must file with the executive director in duplicate an impression of his seal or rubber stamp facsimile on letterhead or other business stationery which he proposes to use. A licensed irrigator must notify the executive director of any changes in the seal or rubber stamp facsimile.

§344.60. Seal and Rubber Stamp Facsimile Design.

The required seal and rubber stamp impressions must be circular and not less than 1 ½ inches in diameter. The words "State of Texas" must be at the top between the two knurled circles and the words "Licensed Irrigator" must be in a like position at the bottom. The licensed irrigator's name must be placed horizontally in the circular field accompanied by his license number. Letters and figures must be as bold as possible to insure legibility and durability.

SUBCHAPTER D: STANDARDS FOR LANDSCAPE IRRIGATION

§§344.72, 344.73, 344.75, 344.77

STATUTORY AUTHORITY

The amendments are adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The amendments are also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.72. Water Conservation.

All irrigation systems shall be designed, installed, maintained, repaired, and serviced in a manner that will promote water conservation as defined in §344.1 of this title (relating to Definitions).

§344.73. Backflow Prevention Methods.

All irrigation systems connected to a public or private potable water supply must be properly connected through one of the following backflow prevention methods:

(1) Atmospheric vacuum breakers. Atmospheric vacuum breakers are designed to prevent only back siphonage. Therefore, atmospheric vacuum breakers must not be used in any irrigation systems where back-pressure may occur. There cannot be any shutoff valves downstream from an atmospheric vacuum breaker. Where atmospheric vacuum breakers may be used, they must be installed at least six inches above any downstream piping and the highest downstream opening. Where local topography effectively prohibits such installation, the executive director shall be consulted for alternative acceptable installation criteria. Such alternative criteria must provide equivalent protection to the potable water supply. In addition, continuous pressure on the supply side of an atmospheric vacuum breaker is prohibited. Where atmospheric vacuum breakers are used in an irrigation system, a separate atmospheric vacuum breaker must be installed on the discharge side of each water control valve, between the valve and all of the sprinkler heads which the valve controls.

(2) Pressure-type vacuum breakers. Pressure-type vacuum breakers are designed to prevent back siphonage and can operate under continuous pressure. Pressure vacuum breakers must be installed at least 12 inches above any downstream piping and the highest downstream opening. Where local topography effectively prohibits such installation, the executive director shall be consulted for alternative acceptable installation criteria. Such alternative criteria must provide equivalent

protection to the potable water supply.

(3) Double check valve assembly backflow preventors. Double check valve assembly backflow preventors are designed to prevent back pressure and back siphonage of water not containing any toxic substance. They may be used where water supply pressure and back pressure on the backflow prevention device may continuously exist. If a double check valve assembly is installed below grade, there must remain adequate space for testing and repair of the device. Test cock plugs must be of non-ferrous material. Test cocks shall not be used as supply connections and must be plugged except when being tested.

(4) Reduced pressure principle backflow prevention assemblies. Reduced pressure principle assemblies are designed for water containing toxic or non-toxic substances and for back pressure and back siphonage. They must be installed 12 inches above grade in a location so as to insure that the device will not be submerged. In addition, adequate provisions must be made for any water which may be discharged through the assembly relief valve.

(5) Air Gap. An air gap, when used must be installed and maintained in accordance with the standards established in the American Waterworks Association M14 Manual on Cross Connection Control.

§344.75. Specific Conditions and Backflow Prevention Devices.

(a) An irrigation system that does not have associated with it any type of injection device and that is connected or capable of being connected only to a single source of water presents a low potential for contamination of the water supply and is, therefore, considered to be a "low hazard" installation. Such an irrigation system must be connected to the water supply through an industry-approved backflow prevention device, such as a double check valve assembly, air gap separation, reduced pressure principle assembly, pressure type vacuum breaker, or atmospheric vacuum breaker.

(b) An irrigation system which adds any chemical is considered to be a "high health hazard". Such an irrigation system must not be connected to any potable water supply except through a reduced pressure principle backflow prevention assembly. The backflow prevention assembly must be tested upon installation and, at least, annually, thereafter, in accordance with §290.44(h)(4) of this title (relating to Water Distribution).

(c) If an irrigation system has more than one water supply source, with one or more supplies being potable water and the other supply or supplies being nonpotable water, the irrigation system must be connected to each water supply only through an industry-approved "high health hazard" backflow prevention device. The device must be tested upon installation and, at least, annually, thereafter, in accordance with §290.44(h)(4) of this title.

§344.77. Minimum Standards for Design and Installation of Irrigation Systems.

(a) Minimum standards for spacing.

(1) Irrigation systems using spray or rotary heads must be designed and installed not to exceed the manufacturer's maximum recommended head spacing for a specific nozzle operating at a specific pressure.

(2) Irrigation systems using spray or rotary heads with no recommended spacing provided by the manufacturer must be designed and installed in conformance with the average spacing specifications provided by a minimum of two other manufacturers of like equipment for the same size nozzle and the same pressure.

(3) Irrigation systems not using spray or rotary heads must be installed according to the manufacturer's recommended installation specifications.

(b) Minimum standards for water pressure. Irrigation systems using spray or rotary heads must be designed and installed according to the minimum head pressure required by the manufacturer for the nozzle and head spacing used.

(c) Minimum standards for wind derating.

(1) Irrigation systems using spray or rotary heads must be designed and installed with the head spacing derated according to the manufacturer's recommendation for the average nighttime wind speed.

(2) Irrigation systems using spray or rotary heads with no manufacturer recommended spacing deration provided must be designed and installed in conformance with the average spacing wind derating information provided by two other manufacturers of like equipment for that size nozzle and pressure.

(d) Minimum standards for precipitation rate.

(1) Landscape irrigation systems using spray or rotary heads that are installed in precipitation zone #1, as defined in §344.1 of this title (relating to Definitions), must be designed and/or installed to provide a minimum precipitation rate of .25 inches per hour for every hour that the landscape irrigation system is in operation.

(2) Landscape irrigation systems using spray or rotary heads that are installed in precipitation zone #2, as defined in §344.1 of this title (relating to Definitions), must be designed and/or installed to provide a minimum precipitation rate of .275 inches per hour for every hour that the landscape irrigation system is in operation.

(3) Landscape irrigation systems using spray or rotary heads that are installed in

precipitation zone #3, as defined in §344.1 of this title (relating to Definitions), must be designed and/or installed to provide a minimum precipitation rate of .30 inches per hour for every hour that the landscape irrigation system is in operation.

(4) Landscape irrigation systems using spray or rotary heads that are installed in precipitation zone #4, as defined in §344.1 of this title (relating to Definitions), must be designed and/or installed to provide a minimum precipitation rate of .325 inches per hour for every hour that the landscape irrigation system is in operation.

(e) Minimum standards for depth coverage of piping. Irrigation systems using spray or rotary heads must be designed and/or installed according to the manufacturer recommended specifications for depth coverage of piping, unless one of the following circumstances is encountered.

(1) If the manufacturer has no recommended specifications for depth coverage of piping, the irrigation system must be designed and/or installed to provide a minimum of six inches of coverage over piping.

(2) If utilities, structures, or tree roots are encountered, the irrigation system must be designed and/or installed to provide a minimum of two inches of coverage over piping.

(f) Minimum standards for wiring irrigation systems.

(1) The wiring used in an irrigation system that connects section valves to controllers must be Underwriters Laboratories listed for direct underground burial.

(2) The wiring used in an irrigation system that connects section valves to controllers must be sized according to the manufacturer's recommendation.

(3) Direct burial wire splices used in an irrigation system must be waterproof as per manufacturer recommendation.

(g) Water Conservation Devices. An individual who installs an irrigation system should discuss with the purchaser of an irrigation system, including drip irrigation, water conservation devices and irrigation scheduling as a component of the design and installation of the irrigation system. All such components of an irrigation system shall be installed following the manufacturer's recommended practices for specific types of equipment.

SUBCHAPTER E: COMPLAINT PROCESS

§§344.80 - 344.85

STATUTORY AUTHORITY

The repeals are adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The repeals are also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.80. Complaint.

§344.81. Executive Director's Receipt of Complaint.

§344.82. Investigation of Complaint.

§344.83. Informal Resolution of Complaint.

§344.84. Enforcement.

§344.85. Surrender of Certificate and Identification Card; Seal.

**SUBCHAPTER F: STANDARDS OF CONDUCT FOR LICENSED IRRIGATORS AND
INSTALLERS**

§344.96

STATUTORY AUTHORITY

The amendment is adopted under the authority granted to the commission by the Texas Legislature in TWC, Chapter 37.

The amendment is also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(15); and TWC, §7.002, which authorizes the commission to enforce provisions of TWC and THSC.

§344.96. Warranties.

On all installations of new irrigation systems (i.e., excluding remodeling and renovation) a licensed irrigator must present the customer a written statement of guarantees for materials and labor furnished in the installation of the irrigation system and shall honor the warranty.