

**Greywater Use Rules Workshop
August 25, 2000
Final Report**

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Executive Overview

The Greywater Use Rules Workshop was held to allow the Texas Natural Resource Conservation Commission (TNRCC) and the Texas Board of Plumbing Examiners (TSBPE) to meet requirements set by the Texas Legislature for the two agencies to jointly develop and adopt, by rule, minimum standards for the use and reuse of greywater. Representatives from TNRCC, TSBPE, PSINet Consulting Solutions, and other stakeholders participated in the workshop. Participants were very candid and open with their comments and concerns.

The workshop participants reviewed the existing rules of the TNRCC, the TSBPE, and the Lower Colorado River Authority (LCRA) and found existing guidelines to be limited to the use of washing machine discharge for irrigation. Workshop participants agreed that rules should be developed to encourage the use and reuse of other greywater sources and for uses other than irrigation. These rules should take the cost to implement greywater reuse systems into consideration so as not to discourage the use of these systems because of cost.

Participants agreed that the technical issues of greywater reuse should be relatively simple to resolve. That is, the participants felt there would be very little disagreement over the development of technical guidelines. A group of leading experts in the field should be able to meet and develop technical guidelines.

The concern of the workshop participants was with assigning jurisdiction over the installation of greywater reuse systems. Current rules require licensing from multiple state agencies. Texas Plumbing law mandates the use of licensed plumbers for some of the work within the boundaries of cities of populations of 5,000 or more. A license from TNRCC is required for all installers. It is also unclear which agency is responsible for permitting.

The workshop participants found the meeting to be a valuable learning opportunity. Presentations delivered by both TNRCC and TSBPE showed the state mandated responsibilities of each agency with regard to greywater.

Representatives from TNRCC and TSBPE will meet together to begin the process of forming a committee to oversee development of greywater use rules.

Why the Workshop was held

The Texas Natural Resource Conservation Commission (TNRCC) issued a Request For Quotation (RFQ) for meeting facilitation services on behalf of the On-site Wastewater Treatment Research Council (Council). The RFQ (appendix 1) was for a one day meeting to gather input from the TNRCC, the Texas State Board of Plumbing Examiners (TSBPE), and other stakeholders to identify and develop a list of issues relating to greywater use, determine if additional rules are necessary, and identify future actions.

The purpose of this meeting was in response to House Bill 346 passed by the Texas Legislature in 1993 (appendix 4) authorizing the TNRCC and the TSBPE to jointly develop and adopt, by rule, minimum standards for the use and reuse of greywater. The Legislature also amended Section 26.0311(a) of the Texas Water Code, and Section 341.039 of the Texas Health and Safety Code (appendix 5).

The Council provided a list of attendees (appendix 6). All attendees were contacted by telephone and sent a follow-up invitation for the workshop (appendix 7) by electronic mail.

Personal interviews were conducted with several of the Austin area participants to gain support and participation for the workshop as well as learn of concerns prior to the meeting. Telephone interviews were conducted with others for the same purpose. All interviews were conducted with strict confidentiality.

How the Workshop was conducted

The workshop was held Friday August 25, 2000 at the Lower Colorado River Authority (LCRA) Boardroom in Austin, Texas. Nineteen (19) individuals representing TNRCC, TSBPE, PSINet Consulting Solutions, and other stakeholders participated in the workshop. A facilitator led the workshop and presented the agenda. The scope of the workshop was to be limited to identifying and developing a list of issues relating to greywater use, determining if additional rules are necessary, and identifying future actions.

Robert Maxwell, Acting Administrator for the Texas State Board of Plumbing Examiners, reviewed the responsibility of the TSBPE according to The Plumbing License Law and Board Rules. Mr. Maxwell also handed out copies of the Uniform Plumbing Code (1994, 1997, and 2000 editions) and the 1993 National Standard Plumbing Code to show current greywater standards as contained within those codes.

Warren Samuelson, TNRCC On-Site Sewage Facilities Program, reviewed the existing TNRCC rules for the treatment and disposal of greywater. Mr. Samuelson also presented proposed TNRCC rules for the treatment and disposal of greywater.

The facilitator encouraged open discussion throughout the workshop. Information from the workshop was captured on a flipchart and is contained in the Workshop Results section of this report.

Workshop Results

Participants were very candid and open with their comments and concerns. An agenda was prepared as a structure for the workshop but not to control the workshop. Nineteen (19) individuals representing the Texas Natural Resource Conservation Commission (TNRCC), the Texas State Board of Plumbing Examiners (TSBPE), PSINet Consulting Solutions, and other stakeholders participated in the workshop. A list of workshop participants is provided after the workshop results in this section.

The workshop opened with the facilitator, Bruce Ray, explaining the purpose and scope. The workshop scope was limited to identifying and developing a list of issues relating to greywater use, determining if additional rules are necessary, and identifying future actions.

The opening presentations were quite helpful. The TSBPE and the TNRCC presented their state mandated responsibilities with regard to greywater. This enabled the audience to understand each agency's position before any discussions of the issues began.

The workshop participants reviewed the existing rules of the TNRCC, the TSBPE, and the Lower Colorado River Authority (LCRA). Rather than focus on the existing rules exclusively the group began to compile a list of issues to consider with any greywater reuse systems. These issues are contained in the list on page one of the workshop results immediately following this narrative in this section.

Once this list of greywater reuse system issues was developed, the workshop participants considered why rules for greywater reuse systems are needed. Then the group listed the components of a greywater reuse system and the various uses for greywater. These lists are included on page two of the workshop results immediately following this narrative in this section.

The above information led the workshop participants to conclude that not only should rules for greywater reuse exist but that additional rules should be developed. The workshop participants then listed elements that should be contained in any greywater reuse system standards. This list is included on page three of the workshop results immediately following this narrative in this section.

The workshop participants noted that current rules for greywater reuse have been developed by separate state agencies and involve overlapping jurisdictions. The group concluded that a policy discussion on jurisdiction issues is needed. The workshop participants then compiled a list of who should be included in such a policy discussion. This list is included on page four of the workshop results immediately following this narrative in this section.

The workshop ended with participants agreeing that rules for greywater reuse systems are necessary and that additional rules should be developed. The participants also agreed that a policy discussion on jurisdiction issues is needed. Warren Samuelson from TNRCC and Vernon Emken from TSBPE agreed to meet to begin the process of forming a committee to oversee development of greywater use rules. A list of actions to be taken as future steps is included on page five of the workshop results immediately following this narrative.

Issues To Consider With Greywater Reuse Systems

- Who permits greywater reuse systems?
- Is a greywater reuse system a treatment system?
- What standard should be used for greywater treatment?
- Existing rules
- Greywater reuse system standards should be cost effective (based on cost of water)
- Cost of water in the future
- Application rates
- Who has jurisdiction over installation of greywater reuse systems? Plumbers? On-site? Irrigators?
- What are other uses of greywater apart from irrigation?
- Public education about greywater
- Treatment and separation distances
- Are greywater reuse system rules necessary? Is this already covered by existing codes? Why have separate rules for greywater reuse systems?
- Incentives to build new housing prepared for split systems
- Does combining sources (rainfall collection, greywater, potable water) for reuse affect treatment standards?
- How to measure results? Who will measure and report on greywater reuse systems?
- The TNRCC Rules on Greywater (proposed) handed out at the meeting contained a definition of greywater which includes "human or animal waste, or waste from food preparations." This phrase should be stricken since blackwater standards apply for these wastes.
- Inside municipality only

Why Have Rules for Greywater Reuse Systems?

- Establish standards
- Clarification
- Alternatives
- Protect public health
- Jurisdiction
- Clean water sources
- Inspection
- Promote reuse technology
- To achieve long term goals for water reuse

Components of a Greywater Reuse System

- In house sources
- Conveyance from house to system
- Treatment system
- Disposal system
- Reuse system (outdoor)
- Indoor reuse system
- Storage
- Backflow prevention

Greywater Uses

- Irrigation
- Flush toilet
- House slab – soil stabilization
- Commercial car wash
- Dust control
- Disposal
- Reduce amount of treatment costs

Greywater Reuse System Standards Should Include:

- Treatment standards – clarify how each type of greywater is treated
- Develop long term and short term goals for greywater reuse – address each with rules
- Exclude from greywater definition human and animal waste and waste from food preparation
- Standards for the use of combined sources (greywater, treated water, potable water)
- Rules should be consistent between agencies (TNRCC, Texas State Board of Plumbing Inspectors, Irrigators, etc.)
- Rules should be complete, specific
- Address agency responsibility for each greywater system component
- Address enforcement of standards for installation, maintenance, etc.
- Address Maintenance standards
- Installation standards
- Inspection
- Allow flexibility for innovation
- Define authority for enforcement
- Address dual licensing issues
- Address who does what - in municipality (through the municipal health department) plumber does it all

A Committee To Produce Greywater Reuse System Standards Should Include:

- Plumbing Industry Representatives (4)
- On-site Industry Representatives (4)
- Plumbing Engineer(s)
- Municipality (OSSF Systems) Representatives
- Texas Municipal League
- Texas Health Department
- Each committee member must be a subject matter expert
- TAC
- Soil Scientist
- Registered Sanitarian
- City Enforcement Representative – Plumbing Inspector
- Plumbers Association Representative(s)
- Water Conservation Specialist
- TNRCC Representative(s)
- Texas State Board of Plumbing Examiners Representative(s)
- Legal Representative(s)
- Utilities Representative(s)
- Authorized Agents Representative(s)
- Governor's Committee on Drought Representative(s)

To Do List

1. Warren Samuelson and Vernon Emken will begin the process of forming a committee to write greywater reuse standards. They plan to meet Tuesday September 26, 2000. This committee will oversee production of technical and policy standards for greywater reuse.
2. The committee will produce a checklist of various agency responsibilities during the permitting and installation of a greywater reuse system.
3. Warren Samuelson will review existing plumbing standards supplied by the Texas State Board of Plumbing Examiners to determine if those standards are in accord with current TNRCC standards.

**TNRCC / Texas State Board of Plumbing Examiners
Greywater Workshop
August 25, 2000**

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AGENDA

- Opening /Introductions/Directions
- Workshop Scope and Purpose
- Beginning Presentations
- Review Current Rules
- Discuss Issues
 - Legislature defined greywater
 - Who installs greywater systems?
 - Who issues licenses?
 - How do rules affect all stakeholders?
- Are Additional Rules Needed? (to cover reuse of greywater other than laundry discharge)
- Next Steps

TNRCC REGULATORY GUIDANCE

Field Operations Division

Subject: OSSF: Treatment and Disposal of Greywater

Laundry Greywater Discharge Criteria:

Greywater for residential laundry washing machines may be discharged directly onto the ground surface under the following conditions:

1. Irrigation must not create a public health nuisance such as surface ponding.
2. The irrigated area must support plant growth such as bushes or be overlaid with vegetative cover. The area must be of a limited access and use by residents, pets, and to foot traffic.
3. Greywater from soiled diapers must be treated in accordance with 30 TAC 285.32 (relating to Criteria for Sewage Treatment Systems), 30 TAC 285.33 (relating to disposal processes - non-standard for surface irrigation systems), and disinfected in accordance with 30 TAC 285.7 (relating to Additional Requirements for Surface Irrigation Systems) prior to irrigation.
4. Do not irrigate an area if the soil is already wet.
5. The use of detergents which contain a significant amount of phosphorus, sodium, or boron should be avoided.
6. A lint trap at the end of the discharge line is required.
7. Residences or commercial laundry operations utilizing installed surface irrigation systems shall adhere to all 30 TAC 285 requirements for surface irrigation systems.

**Texas Natural Resource
Conservation Commission
Chapter 285 - On-Site Sewage
Facilities**

**SUBCHAPTER H : TREATMENT AND DISPOSAL OF GREYWATER
285.50**

285.80. Treatment and Disposal of Greywater

New construction or modification to an existing greywater conveyance, treatment, storage or disposal system outside of a structure or building must be carried out in accordance with provisions of this chapter and any established requirements of the permitting authority. Any new construction or modification to an existing greywater reuse or reuse conveyance system associated with a structure or building must be carried out in accordance with requirements of the State Board of Plumbing Examiners.

Texas State Board of Plumbing Examiners Board Rules

Chapter 363 Examination

Section 363.1 Qualifications

(h) New construction of a graywater system or modification to an existing graywater system must be carried out in accordance with the rules of the Texas State Board of Plumbing Examiners and:

- (1) the Uniform Plumbing Code and its appendixes in single family dwelling installations; or**
- (2) the National Standard Plumbing Code and its appendixes and the National Association of Plumbing-Heating-Cooling Contractors Assessment of On-Site Graywater and Combined Wastewater Treatment and Recycling Systems manual in single family dwelling or commercial installations.**
- (3) Unless exempted by Section 3 of the Plumbing License Law, new construction of a graywater system or modification to an existing graywater system must be performed under the supervision of a person licensed under the Plumbing License Law. When an on-site disposal field or system is utilized all work past the storage tank must be undertaken by a licensee who meets the certification requirements of the Texas Natural Resource Conservation Commission for on-site sewage facility installations.**

LOWER COLORADO RIVER AUTHORITY ON-SITE SEWAGE FACILITY RULES

CHAPTER 2 - LAWFUL DISCHARGES

2.01. LAWFUL DISCHARGES

(b) Water Quality Zones. Wastewater discharges within the Water Quality Zones shall only be lawful if the discharges are made into one of the following facilities:

(3) surface discharge of laundry wastewater "greywater" may be permitted, as approved by the LCRA, under the following conditions and in accordance with the Standards:

- (a) Irrigation must not create a ponding of water.
- (b) The irrigated area must support plant growth such as bushes or be overlaid with a vegetative cover. The area must be of limited access and use by residents, pets, and to foot traffic.
- (c) No diaper waste may be included in greywater discharge.
- (d) Greywater discharge systems and disposal sites must be designated and operated to preclude any runoff of greywater from the approved greywater irrigation site.
- (e) Irrigation must cease when the irrigation site is saturated and not resumed until the site is unsaturated.
- (f) The use of detergents that contain a significant amount of phosphorus, sodium, or boron should be avoided. Greywater containing bleach should not be used for irrigation.
- (g) The use of a sock or stocking placed on the end of the discharge line to trap lint is recommended.
- (h) Commercial laundry discharges are not authorized by this section for greywater discharges.
- (i) Greywater discharges must maintain a setback of 50 feet from any swale, channel, pond or location where stormwater flows in a concentrated manner.

Water Code

SUBTITLE D. WATER QUALITY CONTROL

CHAPTER 26. WATER QUALITY CONTROL

§ 26.0311. Standards for Control of Greywater

(a) In this section, "greywater" means wastewater from clothes washing machines, showers, bathtubs, handwashing lavatories, and sinks that are not used for disposal of hazardous or toxic ingredients.

(b) The commission by rule shall adopt and implement minimum standards for the use of greywater in irrigation and for other agricultural, domestic, commercial, and industrial purposes that will assure that the use of greywater will not be a nuisance or damage the quality of surface water and groundwater in this state.

Added by Acts 1987, 70th Leg., ch. 541, § 1, eff. Sept. 1, 1987.

Amended by Acts 1993, 73rd Leg., ch. 233, § 1, eff. Aug. 30, 1993.

Health and Safety Code

TITLE 5. SANITATION AND ENVIRONMENTAL QUALITY

SUBTITLE A. SANITATION

CHAPTER 341. MINIMUM STANDARDS OF SANITATION AND HEALTH PROTECTION MEASURES

SUBCHAPTER C. SANITARY STANDARDS OF DRINKING WATER; PROTECTION OF PUBLIC WATER SUPPLIES AND BODIES OF WATER

§ 341.039. Graywater Standards

(a) The commission and the Texas State Board of Plumbing Examiners by rule shall adopt and implement minimum standards for the use and reuse of graywater in irrigation and for other agricultural, domestic, commercial, and industrial purposes to assure that the use of graywater is not a nuisance and does not damage the quality of surface water and groundwater in this state.

(b) In this section, "graywater" means wastewater from clothes-washing machines, showers, bathtubs, hand-washing lavatories, and sinks that are not used for disposal of hazardous or toxic ingredients.

Acts 1989, 71st Leg., ch. 678, § 1, eff. Sept. 1, 1989.

Amended by Acts 1993, 73rd Leg., ch. 233, § 2, eff. Aug. 30, 1993; Acts 1995, 74th Leg., ch. 76, § 11.16, eff. Sept. 1, 1995.

§ 341.040. Definition

In this subchapter, commission means the Texas Natural Resource Conservation Commission.

Added by Acts 1991, 72nd Leg., 1st C.S., ch. 3, § 1.024, eff. Aug. 12, 1991.

Amended by Acts 1993, 73rd Leg., ch. 353, § 1, eff. Sept. 1, 1993; Acts 1995, 74th Leg., ch. 76, § 11.17, eff. Sept. 1, 1995.

Article 6243-101. Plumbing License Law

Name

Sec. 1. This Act shall be known and may be cited as "The Plumbing License Law."

Definitions

Sec. 2. In this Act:

(1) "Plumbing" means

(A) All piping, fixtures, appurtenances and appliances for supply or recirculation of water, gas, liquids, and drainage or elimination of sewage, including disposal systems or any combination thereof, for all personal or domestic purposes in and about buildings where a person or persons live, work or assemble; all piping, fixtures, appurtenances and appliances outside a building connecting the building with the source of water, gas, or other liquid supply, or combinations thereof, on the premises, or the main in the street, alley or at the curb; all piping, fixtures, appurtenances, appliances, drain or waste pipes carrying waste water or sewage from or within a building to the sewer service lateral at the curb or in the street or alley or other disposal or septic terminal holding private or domestic sewage; or

TNRCC Rules on Greywater

(30) **Greywater** - Wastewater from clothes washing machines, showers, bathtubs, handwashing lavatories, and sinks, none of which are used for the disposal of hazardous or toxic ingredients, human or animal waste, or waste from food preparations.

§285.80. Treatment and Disposal of Greywater.

New construction or alteration to an existing greywater conveyance, treatment, storage or disposal system outside of a structure or building must comply with this chapter and any established requirements of the permitting authority. Any new construction or alteration to an existing greywater reuse or reuse conveyance system associated with a structure or building must comply with requirements of the State Board of Plumbing Examiners.

§285.81 Criteria for Discharge of Laundry Greywater

Greywater from residential laundry washing machines may be discharged directly onto the ground surface under the following conditions:

- (1) the disposal area shall not create a public health nuisance such as surface ponding;
- (2) the disposal area shall support plant growth or be sodded with vegetative cover;
- (3) the disposal area shall have limited access and use by residents and pets;
- (4) laundry greywater that has been in contact with human or animal waste shall not be discharged on the ground surface and shall be treated and disposed of according to §285.32 and §285.33 of this chapter (relating to Criteria for Sewage Treatment Systems and Criteria for Effluent Disposal Systems, respectively);
- (5) the area shall not be irrigated if the soil is wet;
- (6) the use of detergents that contain a significant amount of phosphorus, sodium, or boron should be avoided; and
- (7) a lint trap shall be required at the end of the discharge line.



The Plumbing License Law

September, 1999

Board Rules

August, 2000

Texas State Board of Plumbing Examiners
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PLUMBING LICENSE ACT AND RULES

Chapter 115

Vernon's Annotated Civil Statutes

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Texas State Board of Plumbing Examiners
Board Rules

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The Plumbing License Law September, 1999

**Texas State Board of Plumbing Examiners
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Article 6243-101. Plumbing License Law

Name

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Definitions

Sec. 2. In this Act:

(1) "Plumbing" means

(A) All piping, fixtures, appurtenances and appliances for supply or recirculation of water, gas, liquids, and drainage or elimination of sewage, including disposal systems or any combination thereof, for all personal or domestic purposes in and about buildings where a person or persons live, work or assemble; all piping, fixtures, appurtenances and appliances outside a building connecting the building with the source of water, gas, or other liquid supply, or combinations thereof, on the premises, or the main in the street, alley or at the curb; all piping, fixtures, appurtenances, appliances, drain or waste pipes carrying waste water or sewage from or within a building to the sewer service lateral at the curb or in the street or alley or other disposal or septic terminal holding private or domestic sewage; or

(B) the installation, repair, service, and maintenance of all piping, fixtures, appurtenances and appliances in and about buildings where a person or persons live, work or assemble, for a supply of gas, water, liquids, or any combination thereof, or disposal of waste water or sewage.

(2) "Master Plumber" means a person skilled in the planning, superintending, and the practical installation, repair, and service of plumbing and is familiar with the codes, ordinances, or rules and regulations governing those matters, who alone, or through a person or persons under his supervision, performs plumbing work, and who has successfully fulfilled the examinations and requirements of the Board.

(3) "Journeyman Plumber" means any person other than a master plumber who supervises, engages in, or works at the actual installation, alteration, repair, service, and renovating of plumbing, and who has successfully fulfilled the examinations and requirements of the Board.

(4) "Plumber's Apprentice" means any person other than a master plumber or journeyman plumber who, as his principal occupation, is engaged in learning and assisting in the installation of plumbing.

(5) "Plumbing Inspector" means any person employed by a political subdivision for the purpose of inspecting plumbing work and installations in connection with health and safety laws and ordinances, who has no financial or advisory interests in any plumbing company, and who has successfully fulfilled the examinations and requirements of the Board.

(6) "Board" means the Texas State Board of Plumbing Examiners.

(7) "Water treatment" is a business which is conducted under contract and requires ability, experience, and skill in the analysis of water to determine how to treat influent and effluent water to alter or purify the water or to add or remove a mineral, chemical or bacterial content or substance. The term includes the installation and service of fixed or portable water treatment equipment or a treatment apparatus, in public or private water treatment systems. The term also includes the making of connections necessary to the installation of a water treatment system.

(8) "System" means interconnection between one or more public or private end users of water, gas, sewer, or disposal systems that could be a threat to public health if improperly connected.

(9) "Water supply protection specialist" means a person who holds a license endorsement issued by the Board to engage in the inspection, in connection with health and safety laws and ordinances, of the plumbing work or installation of a public water system distribution facility or of customer-owned plumbing connected to that system's water distribution lines.

Acts permitted without a license

Sec. 3. Acts Permitted without a License

(a) The following acts, work and conduct shall be expressly permitted without license:

(1) Plumbing work done by a property owner in a building owned or occupied by him as his homestead;

(2) Plumbing work done outside the municipal limits of any organized city, town or village in this state, or within any such city, town or village of less than five thousand (5,000) inhabitants, unless required by ordinance in such city, town or village of less than five thousand (5,000) inhabitants;

(3) Plumbing work done by anyone who is regularly employed as or acting as a maintenance man or maintenance engineer, incidental to and in connection with the business in which he is employed or engaged, and who does not engage in the occupation of a plumber for the general public; construction, installation and maintenance work done upon the premises or equipment of a railroad by an employee thereof who does not engage in the occupation of a plumber for the general public; and plumbing work done by persons engaged by any public service company in the laying, maintenance and operation of its service mains or lines to the point of measurement and the installation, alteration, adjustment, repair, removal and renovation of all types of appurtenances, equipment and appliances, including doing all that is necessary to render the appliances usable or serviceable; appliance installation and service work done by anyone who is an appliance dealer or is employed by an appliance dealer, and acting as an appliance installation man or appliance service man in connecting appliances to existing piping installations; water treatment installations, exchanges, services or repairs. Provided, however, that all work and service herein named or referred to shall be subject to inspection and approval in accordance with the terms of all local valid city or municipal ordinances;

(4) Plumbing work done by a licensed ~~at~~ irrigator licensed under Chapter 34, Water Code, or an installer licensed under Chapter 33, Water Code. A person holding a valid license from the Texas State Board of Plumbing Examiners shall not be required to be licensed by any other board or agency when installing or working on a lawn irrigation system;

(5) Plumbing work done by an LP Gas installer when working and licensed under Chapter 113, Natural Resources Code, as amended.

(6) Plumbing work, limited to the provision of a residential potable water supply or residential sanitary sewer connections, for a project in a geographic area that is located in a county any part of which is within 50 miles of an international border that is done by an organization that:

(A) is certified by the Texas Natural Resource Conservation Commission to provide "self-help" project assistance; and

(B) provides the board with the following information before the 30th day before the date the project begins:

(i) a specific project location;

(ii) the intended duration of the project; and
(iii) other information the board may require, including a post-construction report signed by a plumbing inspector that the plumbing facilities are safe.

(b) Any failure by an organization to meet the requirements of Subsection (a)(6) of this section, including the requirement to obtain certification from the Texas Natural Resource Conservation Commission under Subsection (a)(6)(A) of this section or the requirement to provide a report to the board under Subsection (a)(6)(B) of this section:

(1) invalidates the exception granted under Subsection (a)(6) of this section for the plumbing work performed by that organization in relation to the specific project on which the plumbing work is performed; and

(2) makes any unlicensed individual or entity that performs the plumbing work for that project subject to all penalties ordinarily available to the board against an individual or entity that performs plumbing work without a license.

(c) The board may provide training to an organization that provides "self-help" project assistance under Subsection (a)(6) of this section.

Certification relating to residential water treatment facilities

Sec. 3A. (a) The Commissioner of Health or his designee shall certify persons as being qualified for the installation, exchange, servicing, and repair of residential water treatment facilities as defined by Subsection (g) of Section 2 of this Act. The Texas Board of Health shall set standards for certification to ensure the public health and to protect the public from unqualified persons engaging in activities relating to water treatment. Nothing in this section shall be construed to require that persons licensed pursuant to this Act are subject to certification under this section.

(b) Before a certificate is issued or renewed under this section, an applicant or holder of a certificate shall be required to pay a fee of \$10 a year. On receipt of the required fee, the Texas Department of Health shall issue to a qualified person a certificate stating that the person is qualified for the installation, exchange, servicing, and repair of residential water treatment facilities. The Texas Board of Health shall adopt rules establishing classes of certificates, duration of certificates, and fees.

(c) All fees received by the Texas Department of Health under this section shall be deposited in the State Treasury to the credit of the General Revenue Fund.

State Board of Plumbing Examiners

Sec. 4. (a) The Texas State Board of Plumbing Examiners shall consist of nine members, each of whom shall be a citizen of the United States and a resident of this state. Members of the Board and their successors shall be appointed by the Governor and confirmed by the Senate, and shall hold office for terms of six years, or until their successors are appointed and have qualified. Appointments to the Board shall be made without regard to the race, creed, sex, religion, or national origin of the appointees. One member of the Board shall have had at least ten years practical experience as a master plumber, one member shall have had at least five years practical experience as a journeyman plumber, one member shall be a plumbing contractor with five years experience, one member shall be a licensed sanitary engineer, two members shall be building contractors with five years contracting experience (one of whom shall be principally engaged in

home building and one of whom shall be principally engaged in commercial building), and one member shall have had at least five years practical experience as a plumbing inspector. Two members must be representatives of the general 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 building construction industry;
- (2) is employed by or participates in the management of an agency or business entity related to the building construction industry; or
- (3) has, other than as a consumer, a financial interest in a business entity related to the building construction industry.

(b) A member or employee of the Board may not be an officer, employee, or paid consultant of a trade association in the building construction industry. A member or employee of the Board may not be related within the second degree by affinity or consanguinity as determined under Article 5996h, Revised Statutes, to a person who is an officer, employee, or paid consultant of a trade association in the regulated industry. A person who is required to register as a lobbyist under Chapter 305, Government Code, may not serve as a member of the Board or act as the general counsel to the Board.

(c) It is a ground for removal from the Board if a member:

- (1) does not have at the time of appointment the qualifications required by Subsection (a) of this section for appointment to the Board;
- (2) does not maintain during his service on the Board the qualifications required by Subsection (a) of this section for appointment to the Board;
- (3) violates a prohibition prescribed by Subsection (b) of this section; or
- (4) fails to attend at least half of the regularly scheduled Board meetings held in a calendar year, excluding meetings held while the person was not a Board member.

(d) If a ground for removal of a member from the Board exists, the Board's actions during the existence of the ground for removal are not invalid for that reason.

Sunset provision

Sec. 4a. The Texas State Board of Plumbing Examiners is subject to Chapter 325, Government Code (Texas Sunset Act). Unless continued in existence as provided by that chapter, the board is abolished and this Act expires September 1, 2003.

Powers and duties of the Board

Sec. 5. (a) The Board shall administer the provisions of this Act. The Board shall formally elect a chairman and secretary from its members and may adopt such rules as it deems necessary for the orderly conduct and enforcement of its affairs. The Board is hereby authorized and empowered to employ, promote and discharge such assistants and employees as it may deem necessary to properly carry out the intent and purpose of this Act, and to fix and pay their compensation and salaries and to provide for their duties and the terms of their employment. A majority of the Board shall constitute a quorum for the transaction of business. The Board shall have a seal which shall be judicially noticed. The Board shall keep records of all proceedings and actions by and before the Board. The Board is hereby authorized, empowered and directed to prescribe, amend and enforce all rules and regulations necessary to carry out this Act. The Board

shall appoint an employee or employees thereof, with the power of removal, as a plumbing examiner or examiners, whose duties shall be to examine, as to their fitness and qualifications, all persons applying to the Board for licenses to engage in the business, trade or calling of a master plumber or a journeyman plumber or to serve as a plumbing inspector, and to promptly certify the result thereof to said State Board of Plumbing Examiners.

(b) The Board may not adopt rules restricting competitive bidding or advertising by licensees except to prohibit false, misleading, or deceptive practices by licensees. The Board may not include in its rules to prohibit false, misleading, or deceptive practices by licensees a rule that:

- (1) restricts a licensee's use of any medium for advertising;
- (2) restricts a licensee's personal appearance or use of his voice in an advertisement;
- (3) relates to the size or duration of an advertisement by a licensee; or
- (4) restricts a licensee's advertisement under a trade name.

(c) If the appropriate standing committees of both houses of the legislature acting under Section 5(g), Administrative Procedure and Texas Register Act, as amended (Article 6252-13a, Vernon's Texas Civil Statutes), transmit to the Board statements opposing adoption of a rule under that subsection, the rule may not take effect or, if the rule has already taken effect, the rule is repealed effective on the date the Board received the committees' statements.

(d) The Board may recognize, prepare, or implement continuing education programs for licensees. Participation in the programs is voluntary.

(e) The Board is subject to the open meetings law, Chapter 271, Acts of the 60th Legislature, Regular Session, 1967, as amended (Article 6252-17, Vernon's Texas Civil Statutes), and the Administrative Procedure and Texas Register Act, as amended (Article 6252-13a, Vernon's Texas Civil Statutes).

Personnel policies

Sec. 5A. (a) The chairman of the Board or his designee shall develop an intraagency career ladder program, one part of which shall be the intraagency posting of all nonentry level positions for at least 10 days before any public posting.

(b) The chairman of the Board or his designee shall develop a system of annual performance evaluations based on measurable job tasks. All merit pay for Board employees must be based on the system established under this subsection.

Adoption of plumbing codes

Sec. 5B. (a) to protect the health and safety of the citizens of this state, the Board shall adopt the Southern Standard Plumbing Code, the Uniform Plumbing Code, and the National Standard Plumbing Code.

(b) In adopting plumbing standards for the proper design, installation, and maintenance of a plumbing system, a municipality or an owner of a public water system may adopt standards that do not substantially vary with rules or laws of this state.

Compensation of Board

Sec. 6. Members of the Board shall not receive any fixed salary for their services, but each member of the Board is entitled to a per diem as set by legislative appropriation for each day that the member engages in the business of the Board. A member may not receive any compensation

for travel expenses, including expenses for meals and lodging, other than transportation expenses. A member is entitled to compensation for transportation expenses as provided by the General Appropriations Act. The members of the Board shall qualify by taking the constitutional oath of office before an officer authorized to administer oaths within this state, and, upon presentation of such oath of office, together with the certificate of their appointment, the Secretary of State shall issue commissions to them, which shall be evidence of their authority to act as such.

Expenses of Board

Sec. 7. All sums of money paid to the Board under this Act shall be deposited in the State Treasury to the credit of a special fund to be known as the plumbing examiners fund and may be used only for the administration of this Act. The Board shall report to the Governor of the State of Texas the receipts and disbursements under this Act for each fiscal year. The financial transactions of the Board are subject to audit by the state auditor in accordance with Chapter 321, Government Code.

Issuance of licenses

- Sec. 8. (a) The Board shall issue licenses to such persons as have by a uniform, reasonable examination shown themselves fit, competent and qualified to engage in the business, trade or calling of a master plumber or journeyman plumber, or plumbing inspector, as the case may be.
- (b) Within 30 days after the date a licensing examination is administered under this Act, the Board shall notify each examinee of the results of the examination.
- (c) If requested in writing by a person who fails the licensing examination administered under this Act, the Board shall furnish the person with an analysis of the person's performance on the examination.
- (d) The Board may waive any license requirement for an applicant with a valid license from another state having license requirements substantially equivalent to those of this state.

Investigation of complaint; action

- Sec. 8A. (a) The Board may conduct any investigations regarding alleged violations of this Act by any licensed or unlicensed plumber.
- (b) The Board shall maintain an information file about each complaint filed with the Board relating to a licensee.
- (c) If a written complaint is filed with the Board relating to a licensee, the Board, at least as frequently as quarterly, shall notify the parties to the complaint of the status of the complaint until final disposition unless the notification would jeopardize an undercover investigation.
- (d) The Board shall prepare information of consumer interest describing the regulatory functions of the Board and the Board's procedures by which consumer complaints are filed with and resolved by the Board. The Board shall make the information available to the general public and appropriate state agencies.
- (e) Each written contract for services in this state of a licensed plumber shall contain the name, mailing address, and telephone number of the Board.
- (f) The Board may request and, if necessary, compel by subpoena the attendance of witnesses for examination under oath and the production for inspection and copying of books, accounts,

records, papers, correspondence, documents, and other evidence relevant to the investigation of alleged violations of this Act. If a person fails to comply with a subpoena issued under this subsection, the Board, acting through the attorney general, may file suit to enforce the subpoena in a district court in Travis County or in the county in which a hearing conducted by the Board may be held. The court, if it determines that good cause exists for the issuance of the subpoena, shall order compliance with the requirements of the subpoena. Failure to obey the order of the court may be punished by the court as contempt.

Field representatives

Sec. 8B. (a) For the purposes of this Act, "field representative" means an employee of the Board who is:

- (1) knowledgeable of this Act and of municipal ordinances relating to plumbing;
- (2) qualified by experience and training in good plumbing practice; and
- (3) designated by the Board to assist in the enforcement of this Act and rules adopted under this Act.

(b) A field representative may:

- (1) make on-site license checks to determine compliance with this Act;
- (2) investigate consumer complaints filed under Section 8A of this Act;
- (3) assist municipal plumbing inspectors in cooperative enforcement of this Act; and
- (4) issue citations as provided by Section 14 of this Act.

Enforcement by inspector

Sec. 8B. In addition to enforcement by the Board, each plumbing inspector may enforce this Act.

Medical gas piping installation endorsement

Sec. 8C. (a) A medical gas piping installation endorsement entitles a holder of a master plumber license or journeyman plumber license to install pipe used solely to transport gases used for medical purposes.

(b) To be eligible for an endorsement under this section, the license holder must perform satisfactorily on a separate examination related to the endorsement.

(c) An endorsement under this section is valid for three years and may be renewed on or before February 1, or as provided by Section 12A of this Act, in the same manner as a license renewal under Section 12 of this Act.

Penalties

Sec. 9. (a) The Board shall revoke or suspend a license, probate a license suspension, or reprimand a licensee for any violations of this Act or rules of the Board. A violation of this Act shall include but not be limited to: obtaining a license through error or fraud; having willfully, negligently or arbitrarily violated municipal rules or ordinances regulating sanitation, drainage and plumbing; knowingly making a substantial misrepresentation of services to be provided or which have been provided; or making any false promise with intent to influence, persuade, or induce an individual to contract for services. Any person whose license has been revoked may, after the expiration of one year from the date of such revocation, but not before, apply for a new license.

(b) A person who violates any provision of this Act or any rule, regulation, permit, or other order of the Board is subject to a civil penalty of not less than \$50 or more than \$1,000 for each act of violation and for each day of violation after notification to be recovered as provided by this Act.

(c) If the Board proposes to refuse a person's application for licensure or to suspend or revoke a person's license, the person is entitled to a hearing before the Board. Grounds for suspension or revocation of a license due to suspected incompetence or willful violation by a licensee may be determined through retesting procedures.

(d) Proceedings for the refusal, suspension, or revocation of a license are governed by the Administrative Procedure and Texas Register Act, as amended (Article 6252-13a, Vernon's Texas Civil Statutes).

(e) A person commits an offense if the person knowingly violates this Act or a rule adopted under this Act, engages in activities for which a license is required without a license issued under this Act, or employs an unlicensed person to engage in activities for which a license is required by this Act. An offense under this subsection is a Class C misdemeanor.

Continuation of licenses

Sec. 10. All valid licenses issued by the Board on or before September 1, 1981, shall continue in effect for the length of their original issuance.

Apprentice

Sec. 11. Any person who has worked as a plumber's apprentice at the business, trade or calling of plumbing for such a length of time as the Board may prescribe in its rules and regulations, and who desires to take an examination to entitle him to a license as a journeyman plumber, may file his application and take the examination provided by the Board.

Water Supply Protection Specialist

Sec. 11A. (a) The Board shall issue an endorsement as a water supply protection specialist to a person licensed under this Act as a master or journeyman plumber if the license holder:

(1) applies to the Board on a form prescribed by the Board;

(2) pays the fee set by the Board;

(3) presents evidence satisfactory to the Board of successful completion of a Board approved certification program for water supply protection specialists; and

(4) passes any examination required by the Board.

(b) An endorsement issued under this section is valid for three years from the date of issuance and may be renewed on compliance with any requirements prescribed by Board rule.

(c) A license holder who holds an endorsement under this section may hold himself out as a water supply protection specialist.

Exemption of public employees

Sec. 11B. Nothing in this Act shall require a person employed by a political subdivision who, in the person's capacity as a public employee, acts as a backflow prevention device specialist or water supply protection specialist to have a license endorsement under Section 11A of this Act.

Exemption of public utility employees

Sec. 11C. Nothing in this Act shall require a person employed by a public utility as defined by Section 3(c), Public Utility Regulatory Act (Article 1446c, Vernon's Texas Civil Statutes) who, in the course of the person's employment, acts as a backflow prevention device specialist or water supply protection specialist to have a license endorsement under Section 11A of this Act.

Licenses; renewals

Sec. 12. (a) Licenses issued by the Board shall be valid throughout the state, but shall not be assignable or transferable. The Board shall forward to the local Board of Health, if there be one, of each town, or to the other authority having control of the enforcement of regulations relative to plumbing in each town, the names and addresses of all persons in such town to whom such licenses have been granted. Licenses shall be issued for one year and may be renewed annually on or before February 1st or as provided by Section 12A of this Act upon payment of the required fee.

(b) A person who has complied with the continuing professional education requirement of Section 12B of this Act may renew an unexpired license by paying the required renewal fee to the Board before the expiration date of the license.

(c) A person who has complied with the continuing professional education requirement of Section 12B of this Act and whose license has been expired for 90 days or less may renew the license by paying to the Board the required renewal fee and a fee that is one-half of the examination fee for the license.

(d) A person who has complied with the continuing professional education requirement of Section 12B of this Act and whose license has been expired for longer than 90 days but less than two years may renew the license by paying to the Board all unpaid renewal fees and a fee that is equal to the examination fee for the license.

(e) If a person's license has been expired for two years or longer, the person may not renew the license. The person may obtain a new license by submitting to reexamination and complying with the requirements and procedures for obtaining an original license.

(f) At least 30 days before the expiration of a person's license, the Board shall send written notice of the impending license expiration to the person at the licensee's last known address according to the records of the Board.

Expiration dates of licenses; proration of fees

Sec. 12A. The Board by rule may adopt a system under which licenses expire on various dates during the year. For the year in which the license expiration date is changed, license fees payable on February 1 shall be prorated on a monthly basis so that each licensee shall pay only that portion of the license fee which is allocable to the number of months during which the license is valid. On renewal of the license on the new expiration date, the total license renewal fee is payable.

Continuing Professional Education

Sec. 12B. (a) A person holding a license under this Act must complete at least six hours of continuing professional education each license year. Three of the six hours required must be in the subjects of health protection, energy conservation, and water conservation.

(b) The Board by rule shall adopt the criteria for continuing professional education acceptable under this section.

(c) For a person to receive credit for participation in a continuing professional education program or course, the program or course must have been provided according to the criteria adopted by the Board by an individual, business, or association approved by the Board.

(d) A person holding a license under this Act who lives in a county having no city with a population in excess of 100,000 may fulfill the continuing professional education requirement of this section through a correspondence course.

(e) The Board by rule may adopt exemptions from the requirements of this section for certain persons holding a license under this Act if the Board finds that exempting these persons from the continuing professional education requirements of this Act is in the public interest.

Fees

Sec. 13. (a) The Board shall establish fees that are reasonable and necessary to defray the cost of administering this Act.

(b) The Board shall not maintain unnecessary fund balances, and fee amounts shall be set in accordance with this requirement.

Prohibited acts

Sec. 14. (a) No person, whether as a master plumber, journeyman plumber, or otherwise, shall engage in, work at, or conduct the business of plumbing in this state or serve as a plumbing inspector as herein defined, except as herein specifically exempted from the provisions of this Act, unless such person is the holder of a valid license as provided for by this Act. It shall be unlawful for any person, firm, or corporation to engage in or work at the business of installing plumbing and doing plumbing work except as specifically herein provided unless such installation of plumbing or plumbing work be under the supervision and control of a plumber licensed under this Act. A license holder may not act as a water supply protection specialist unless the license holder has the appropriate license endorsement under Section 11A or 11B of this Act.

(b) A person may not install pipe used solely to transport gases for medical purposes unless the person is licensed as a master plumber or journeyman plumber under this Act and holds an endorsement issued under Section 8C of this Act. This endorsement will coincide with the rules and regulations adopted by the Texas Department of Health.

(c) An offense under this section is a Class C misdemeanor .

(d) In addition to any other action, proceeding, or remedy authorized by law, the Board may institute an action in its own name against any person to enjoin any violation of this Act or any rule of the Board. In order for the Board to sustain the action, it is not necessary to allege or prove either that an adequate remedy at law does not exist or that substantial or irreparable damage would result from the continued violation of this Act or a Board rule. Any party to the action may appeal the cause. The Board may not be required to give any appeal bond in any cause arising under this Act. The attorney general shall represent the Board in all actions and proceedings to enforce this Act.

(e) A field representative or, within the jurisdiction of that municipality, a municipal plumbing inspector or water district plumbing inspector, may issue a citation to a person who engages in

conduct described by Subsection (e) of Section 9 of this Act.

(f) A person, corporation, or other entity may not sell, donate, or transfer a water closet plumbing fixture or other equipment that uses water that does not comply with a state-approved plumbing code and that may permit the backflow of nonpotable substances into the potable water supply. The board shall adopt rules under this subsection that include a list describing the types of plumbing fixtures to which this subsection applies.

Local rules and regulations

Sec. 15. (a) Every city in this state of more than five thousand (5,000) inhabitants shall, and any city or town of this state may, by ordinance or by law, prescribe rules and regulations for the materials, construction, alteration and inspection of all pipes, faucets, tanks, valves and other fixtures by and through which a supply of water, gas or sewage is used or carried; and provided that they shall not be placed in any building therein except in accordance with such rules and regulations; and shall further provide that no plumbing shall be done except in case of repairing of leaks, without a permit being first issued therefor upon such terms and conditions as such city or town shall prescribe; provided that no such ordinance, bylaw, rule or regulation prescribed by any such city or town shall be inconsistent with this Act, or any rule or regulation adopted or prescribed by the State Board of Plumbing Examiners.

(b) A political subdivision that requires a master plumber to have a bond before the master plumber may be issued a permit by the subdivision shall also accept, instead of a bond, a certificate of insurance that meets the requirements of Subsection (c) of this section.

(c) A certificate of insurance must:

- (1) be written by a company licensed to do business in this state;
- (2) provide for commercial general liability insurance for the master plumber for claims for property damage or bodily injury, regardless of whether the claim arises from a negligence claim or on a contract claim; and
- (3) be in a coverage amount of not less than \$300,000 for all claims arising in any one-year period.



Board Rules August, 2000

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BOARD RULES

TEXAS STATE BOARD OF PLUMBING EXAMINERS

Chapter 361 Administration

Sec. 361.1. Definitions.

The following words and terms, when used in this part, have the following meanings, unless the context clearly indicates otherwise:

- (1) Act - The Plumbing License Law, Texas Civil Statutes, Article 6243-101, as amended.
- (2) Administrative Act - The Administrative Procedure Act, the Texas Government Code, Section 2001.001, et seq, as amended.
- (3) Administrator - The Board-appointed executive head of the administrative staff.
- (4) Appliance Connection - A minor appliance connection procedure that does not require cutting into existing piping.
- (5) Applicant - An individual seeking to obtain a License or Endorsement.
- (f) Board - The Texas State Board of Plumbing Examiners.
- (7) Board Member - An individual appointed by the governor and confirmed by the senate to serve on the Board.
- (8) Chief Examiner - an employee of the Board who, under the direction of the Administrator, coordinates and supervises the activities of the Board examinations.
- (9) Chief Field Representative - an employee of the Board who meets the definition of "Field Representative" and, under the direction of the Administrator, coordinates and supervises the activities of the Field Representatives.
- (10) Complaint - A written charge alleging a violation of state law, Board rules or orders, local codes or ordinances, or standards of competency; or the presence of fraud, false information, or error in the attempt to obtain a License or Endorsement.
- (11) Contested Case - A proceeding, including but not limited to rulemaking and licensing, in which the agency determines the legal right, duties, and privileges of a party after allowing an opportunity for adjudicative hearing of the case.
- (12) Continuing Professional Education - Board-approved courses/programs required for a plumber to renew his or her License and/or Endorsement.
- (13) Endorsement - a certification issued by the Board in addition to the Master or Journeyman Plumber License.
- (14) Field Representative - for the purposes of these Rules,
 - (a) "Field Representative" means an employee of the Board who is:
 - (1) knowledgeable of this Act and of municipal ordinances relating to plumbing;
 - (2) qualified by experience and training in good plumbing practice; and
 - (3) designated by the Board to assist in the enforcement of this Act and rules adopted under this Act.

(b) A field representative may:

- (1) make on-site license checks to determine compliance with this Act;
- (2) investigate consumer complaints filed under Section 8A of this Act;
- (3) assist municipal plumbing inspectors in cooperative enforcement of this Act;

and

(4) issue citations as provided by Section 14 of this Act.

(15) **Journeyman Plumber** - means any person other than a master plumber who supervises, engages in, or works at the actual installation, alteration, repair, service, and renovating of plumbing, and who has successfully fulfilled the examinations and requirements of the Board.

(16) **License** - A document issued by the Board to certify that the cited person fulfilled the requirements of the Act and of these rules.

(17) **Licensing** - The process of granting, denying, renewing, revoking, or suspending a License or Endorsement.

(18) **Maintenance Man or Maintenance Engineer** - An employee, as opposed to an independent contractor, who performs plumbing maintenance work incidental to and in connection with other duties. "Incidental to and in connection with" includes the repair, maintenance and replacement of existing potable water piping, existing sanitary waste and vent piping, existing plumbing fixtures and existing water heaters. "Incidental to and in connection with" does not include cutting into fuel gas plumbing systems and the installation of gas fueled water heaters. A person who erects, builds, or installs plumbing not already in existence may not be classified as a maintenance man or maintenance engineer. Plumbing work performed by a maintenance man or maintenance engineer is not exempt from state law and municipal rules and ordinances regarding plumbing codes, plumbing permits and plumbing inspections. Such maintenance persons shall not engage in plumbing work for the general public.

(19) **Master Plumber** - means a person skilled in the planning, superintending, and the practical installation, repair, and service of plumbing and who is familiar with the codes, ordinances, or rules and regulations governing those matters, who alone, or through a person or persons under his supervision, performs plumbing work, and who has successfully fulfilled the examinations and requirements of the Board.

(20) **Medical Gas Piping Installation Endorsement** - a document entitling the holder of a Master or Journeyman Plumber License to install piping that is used solely to transport gases used for medical purposes including, but not limited to oxygen, nitrous oxide, medical air, nitrogen, medical vacuum.

(21) **Party** - Each person named or admitted in association with an action as a party.

(22) **Person** - An individual, partnership, corporation, association, governmental subdivision, or public or private organization of any character other than an agency.

(23) **Petitioner** - A person asking the Board to adopt a rule.

(24) **Plumbing** - All piping, fixtures, appurtenances, and appliances, including disposal systems, drain or waste pipes, or any combination of these that:
supply, recirculate, drain, or eliminate water, gas, liquids, and sewage for all personal or domestic purposes in and about buildings where persons live, work, or assemble;
connect the building on its outside with the source of water, gas, or other liquid supply, or combinations of these, on the premises, or the water main on public property; and carry waste water or sewage from or within a building to the sewer service lateral on public property or

the disposal or septic terminal that holds private or domestic sewage.

The installation, repair, service, maintenance, alteration, or renovation of all piping, fixtures, appurtenances, and appliances on premises where persons live, work, or assemble that supply gas, water, liquids, or any combination of these, or dispose of waste water or sewage.

(25) **Plumbing Company** - A business which engages in plumbing work. There is no criteria other than the performance of plumbing work that will designate a business a plumbing company.

(26) **Plumbing Inspection** - Any of the inspections required in Sec. 15(a) of the Act, including any check of pipes, faucets, tanks, plumbing fixtures and appliances by and through which a supply of water, gas or sewage is used or carried that is performed on behalf of any city or municipality of more than five thousand (5,000) inhabitants to ensure compliance with the municipality's adopted plumbing and gas codes and ordinances regulating plumbing.

(27) **Plumbing Inspector** - An individual with no financial or advisory interests in any plumbing company who:

is authorized by the Act and Board Rules to conduct plumbing inspections and is employed by or is an agent of a political subdivision to check plumbing work for compliance with health and safety laws and ordinances; and has successfully completed the examinations and met the Board's requirements for Plumbing Inspector status.

(28) **Pocket Card** - A card issued by the Board which certifies that the holder has a Master Plumber License, Journeyman Plumber License, or Plumbing Inspector License.

(29) **Registered Plumbing Apprentice** - An individual other than a master plumber or journeyman plumber whose principal occupation is learning about and assisting in the installation of plumbing. The work that may be performed by a Registered Plumbing Apprentice is limited by the Act and these rules (See Sec.365.2 and Sec 367.3 of these Rules).

(30) **Regularly Employed** - Steadily, uniformly, or habitually working in an employer-employee relationship with a view of earning a livelihood, as opposed to working casually or occasionally.

(31) **Respondent** - A person charged in a complaint filed with the Board.

(32) **Responsible Master Plumber** - A responsible master plumber is the master that allows his Master Plumber License to be used by a company for the purpose of performing plumbing work and obtaining the required plumbing permits. The master plumber by allowing his license to be used in this manner, assumes responsibility for all plumbing work performed. A Responsible Master Plumber may allow his master plumber license to be used by only one plumbing company.

(33) **Rule** - An agency statement of general applicability that implements, interprets, or prescribes law or policy, or describes the procedure or practice requirements of the agency. The term includes the amendment or repeal of a prior rule but does not include statements concerning only the internal management or organization of the agency and not affecting private rights or procedures.

(34) **System** - An interconnection between one or more public or private end users of water, gas, sewer, or disposal systems that could endanger public health if improperly installed.

(35) **Water Supply Protection Specialist** - a Master or Journeyman Plumber who holds the Water Supply Protection Specialist Endorsement issued by the Board.

(36) Water Treatment - A business conducted under contract to analyze, then alter or purify influent or effluent water by adding or removing a mineral, chemical, or bacterial content or substance. The term includes the installation, exchange, servicing, or repair of fixed or portable water treatment equipment or connections necessary to the installation of such equipment in public or private water treatment systems.

(37) Water Treatment Certificate - A document issued by the Texas Natural Resource Conservation Commission certifying that the named person complies with department rules for engaging in water treatment.

Source: The provisions of this § 361.1 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785; amended to be effective April 15, 1994, 19 TexReg; amended to be effective April 9, 1998, 23 TexReg 3446, amended to be effective June 1, 1999; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7209.

Sec. 361.2. Purpose.

The purpose of these rules is to provide standards and procedures to implement the provisions of the act, of the administrative act, and of all applicable laws for the examination and licensing of plumbers and plumbing inspectors in Texas.

Source: The provisions of this § 361.2 adopted to be effective May 18, 1982, 7 TexReg 1748.

Sec. 361.3. Scope.

The Board shall apply these rules to all individuals engaged in plumbing activities and plumbing inspection in Texas, with the exceptions noted in the act and in these rules.

Source: The provisions of this § 361.3 adopted to be effective May 18, 1982, 7 TexReg 1748.

Sec. 361.4. The Board.

The Board shall hold meetings and conduct business in accordance with all applicable laws, these rules, and any procedures it may establish to discharge its functions. The Board shall set forth in writing any such procedure so established and file them with the agency as open records.

Source: The provisions of this § 361.4 adopted to be effective May 18, 1982, 7 TexReg 1748.

Sec. 361.5. Administration.

The Board shall delegate to the administrative staff under the direction of its administrator those functions appropriate to the daily conduct of the Board's business of carrying out the purposes of all applicable laws and of these rules.

Source: The provisions of this § 361.5 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 361.6. Fees.

(a) The Board has established the following fees:

(1) Licenses

(A) Master license	\$175.00
(B) Journeyman license	\$25.00

(C) Medical gas installation endorsement (Master)	\$50.00
(D) Medical gas installation endorsement (Journeyman)	\$12.00
(E) Plumbing inspector license	\$50.00
(F) Water supply protection specialist endorsement (Journeyman)	\$12.00
(G) Water supply protection specialist endorsement (Master)	\$50.00
(H) Water supply protection specialist endorsement (Inspector)	\$25.00
(I) Medical gas installation endorsement (Inspector)	\$25.00
(2) Examinations	
(A) Master examination	\$150.00
(B) Journeyman examination	\$25.00
(C) Medical gas installation endorsement (Master)	\$75.00
(D) Medical gas installation endorsement (Journeyman)	\$25.00
(E) Plumbing inspector examination	\$50.00
(F) Water supply protection specialist endorsement (Journeyman)	\$25.00
(G) Water supply protection specialist endorsement (Master)	\$75.00
(H) Water supply protection specialist endorsement (Inspector)	\$50.00
(I) Medical gas installation endorsement (Inspector)	\$50.00
(3) Renewals	
(A) Master license	\$175.00
(B) Journeyman license	\$25.00
(C) Medical gas installation endorsement (Master)	\$50.00
(D) Medical gas installation endorsement (Journeyman)	\$12.00
(E) Plumbing inspector license	\$50.00
(F) Water supply protection specialist endorsement (Journeyman)	\$12.00
(G) Water supply protection specialist endorsement (Master)	\$50.00
(H) Inspector with a Master and/or Journeyman License	\$50.00
(I) Master with Journeyman License	\$150.00
(J) Water supply protection specialist endorsement (Inspector)	\$25.00
(K) Medical gas installation endorsement (Inspector)	\$25.00
(4) Other fees	
(A) Late renewal	
(I) Master:	
(I) less than 90 days - one-half examination fee	\$75.00
(II) more than 90 days - examination fee	\$150.00
(ii) Medical gas installation endorsement (Master):	
(I) less than 90 days - one half examination fee	\$37.50
(II) more than 90 days - examination fee	\$75.00
(iii) Medical gas installation endorsement (Journeyman):	
(I) less than 90 days - one half examination fee	\$12.50
(II) more than 90 days - examination fee	\$25.00
(iv) Journeyman -	

(I) less than 90 days - one-half examination fee	\$12.50
(II) more than 90 days - examination fee	\$25.00
(v) Water supply protection specialist (Journeyman):	
(I) less than 90 days - one half examination fee	\$12.50
(II) more than 90 days - examination fee	\$25.00
(vi) Water supply protection specialist (Master):	
(I) less than 90 days - one half examination fee	\$37.50
(II) more than 90 days - examination fee	\$75.00
(vii) Plumbing Inspector:	
(I) less than 90 days -one half examination fee	\$25.00
(II) more than 90 days - examination fee	\$50.00
(viii) Master with Journeyman:	
(I) less than 90 days - one half examination fee	\$75.00
(II) more than 90 days - examination fee	\$150.00
(ix) Plumbing Inspector with Master and/or Journeyman:	
(I) less than 90 days - one half examination	\$25.00
(II) more than 90 days - examination fee	\$50.00
(B) Instructor Certification Training (Per Day)	\$100.00
(C) Duplicate license or new license with change of name	\$10.00
(D) Returned check	\$10.00

(b) Methods of payment

(1) Examination fees shall be paid in the form of cash, cashiers check, or money order, or, only in the case of the Plumbing Inspector's examination, in the form of a city check.

(2) Licensing and Endorsement fees shall be paid in the form of cash, cashiers check, personal check (including company check), or money order, or, only in the case of the Plumbing Inspector's License, in the form of a city check.

(3) License and Endorsement renewal fees shall be paid in the form of cash, cashiers check, personal check (including company check), or money order, or, only in the case of the Plumbing Inspector's license, in the form of a city check.

(4) A person shall pay the appropriate fee prior to the time of testing or at the time of testing. For licensing, endorsement, and renewal, the appropriate fee shall be paid prior to issuance of the license, endorsement, or renewal.

(5) The board, under any special circumstances it finds appropriate, may:

(a) waive any requirements concerning the method or timing of payment of any fee;

(b) refund any fee; or

(c) waive payment of any fee not required by statute.

Source: The provisions of this § 361.6 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective December 5, 1989, 14 TexReg 6129; amended to be effective August 25,

1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785; amended to be effective August 8, 1994, 19 TexReg 5709; amended to be effective August 7, 1995, 20 TexReg 5501; amended to be effective June 7, 1996, 21 TexReg 4686; amended to be effective February 27, 1997, 22 TexReg 1807; amended to be effective September 15, 1997, 22 TexReg 8999; amended to be effective January 31, 1999, 24 TexReg 557; adopted to be effective June 1, 1999 TexReg ;

Sec. 361.8. Forms and Materials.

The Board incorporates by reference any rules that may be contained in the following forms and requires the use of these forms in doing business with the agency:

- (1) Applications for Examination and Endorsements
- (2) Employer's Certification
- (3) Application for Registration as an Apprentice Plumber
- (4) General Complaint
- (5) Applications for renewals and/or Endorsements
- (6) Supplemental Criminal History Information
- (7) Application for Nonstandard Testing Accommodations including the Physician or

Licensed Health Care Provider.

Source: The provisions of this § 361.8 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective September 9, 1982, 7 TexReg 3142; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 8, 1994, 19 TexReg 5709; adopted to be effective June 1, 1999 TexReg ;

Sec. 361.9. Charges for Copies of Public Records.

The charge to any person requesting copies of any public record of the Texas State Board of Plumbing Examiners will be the charge established by the General Services Commission and according to the requirements of the Public Information Act. Copies of public records shall be furnished without charge or at a reduced charge if the Administrator determines that waiver or reduction of the fee is in the public interest because furnishing the information can be considered as primarily benefitting the general public.

Source: The provisions of this § 361.9 adopted to be effective June 2, 1994, 19 TexReg 3930; adopted to be effective June 1, 999 TexReg ;

Sec. 361.10. Historically Underutilized Business (HUB) Program.

The Texas State Board of Plumbing Examiners adopts the rules of the General Services Commission relating to the Historically Underutilized Business (HUB) Program and codified at 1 Texas Administrative Code, Part V, Subchapter B, Chapter 111, § § 111.11-111.16.

Source: the provision of this § 361.10 adopted to be effective December 14, 1999, 24 TexReg 11104.

Sec. 361.21. Petition for Adoption of Rules.

Any person who petitions the Board in writing to request the adoption of rules shall:

- (1) include a brief statement summarizing the proposed action and detailing its desired effect;
- (2) include a full justification of the proposed action in narrative form, citing all

pertinent facts and circumstances;

- (3) refer to an existing rule under consideration by title and code number and preface the text to indicate words and punctuation to be added, changed, or deleted;
- (4) prepare the text of a new rule in the exact form that is desired to be adopted;
- (5) include a suggested effective date;
- (6) include the petitioner's full name, complete mailing address, and telephone number;
- (7) include the signature of the petitioner and of the petitioner's representative, if any;

and

- (8) file 10 copies (one for the administrator and one for each board member) at least 30 days before the meeting at which the petition is to be considered.

Source: The provisions of this § 361.21 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 361.22. Contested Cases: Hearings.

Sec. 361.22. Contested Cases: Hearings.

(a) If the Board denies an examination, a license, or endorsement to an applicant under the Act, the Board shall give timely written notice of the denial to the applicant. Notice and hearings relating to the denial shall be governed by the Act and the Administrative Procedure Act: Failure by the denied applicant to request a hearing within 20 days of the mailing of the notice of the denial waives judicial appeal, and the Board determination becomes final and unappealable.

(b) The Board shall provide for a hearing when requested after issuing a formal complaint that:

(1) charges an individual with any of the actions specified as grounds for disciplinary action; or

(2) would prevent an otherwise qualified individual from obtaining a license or endorsement, a license or endorsement renewal, or permission to take an examination.

(c) The Board shall afford an opportunity for a hearing to all parties, giving them reasonable notice of not less than 10 days before the hearing.

(d) The Board shall conduct the hearing in accordance with all applicable provisions of the Administrative Procedure Act.

Source: The provisions of this § 361.22 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785; amended to be effective February 5, 1998, 23 TexReg 754.

Sec. 361.23. Contested Cases: Notice of Hearing.

In addition to following the requirements of the administrative act related to notice of hearing, the Board shall:

(1) state in the notice that all parties will have the opportunity to respond to and present evidence and argument on all issues involved and to be represented by legal counsel; and

(2) serve on the respondent the notice of hearing and a copy of the charges at least 10 days before the hearing.

Source: The provisions of this § 361.23 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 361.24. Contested Cases: Record of Hearing.

In addition to following the requirements of the administrative act related to record of

hearing, the Board shall:

(1) transcribe the proceedings on written request of any party; and

(2) pay the cost of the original transcript but assess the cost of any additional copies to those requesting them.

Source: The provisions of this § 361.24 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 361.25. Contested Cases: Informal Disposition.

The Board shall establish an enforcement committee composed of at least one board member and at least one member of the Board staff. A Board member will be the chairman of the Enforcement Committee. The Enforcement Committee shall oversee Board investigations; conduct informal conferences; draft formal complaints and pursue cases at the State Office of Administrative Hearings; negotiate proposed settlements; oversee the preparation for contested cases; oversee the issuance of citations; and determine if the Board shall file an injunction.

Source: The provisions of this § 361.25 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; adopted to be effective June 1, 1999, TexReg ;

Sec. 361.26. Contested Cases: Investigations.

(a) The Board may investigate complaints regarding any licensed or unlicensed person who engages in plumbing as defined in Section 3 of Article 6243-101, V.C.T.S.

(b) Each written contract for services by the licensed Responsible Master Plumber and any other person shall contain the Responsible Master Plumber's License number, the Board's name, mailing address and telephone number. The term "written contract" includes documents used by a plumber or plumbing company to define the scope and cost of the work to be provided to the public. This would include items such as service invoices, billing invoices or any document which defines the services and cost of the services provided to the consumer. For the purposes of this section, the public need not sign the document for it to be considered a contract.

Source: The provisions of this § 361.26 adopted to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 8, 1994, 19 TexReg 5709; amended to be effective October 14, 1996, 21 TexReg 9445; adopted to be effective June 1, 1999, TexReg ;

Sec. 361.27. Rules of Practice and Procedure.

(a) Entry of Appearance; Continuance

(1) When a contested case has been instituted, the respondent or the representative of the respondent shall enter an appearance within 20 days of the date on which the notice of hearing is provided to the respondent.

(2) For the purposes of this section, a contested case shall mean any action that is referred by the Texas State Board of Plumbing Examiners to the State Office of Administrative Hearings.

(3) For purposes of this section, an entry of appearance shall mean the filing of a written answer or other responsive pleading with the State Office of Administrative Hearings.

(4) For purposes of this section, notice of hearing is provided to a respondent on the date of mailing the notice via certified mail and via regular mail containing a notice of hearing in

accordance with provisions of the Administrative Procedure Act.

(5) The filing of an untimely appearance by a party, or entering an appearance at the contested case hearing, entitles the Texas State Board of Plumbing Examiners to a continuance of the hearing in the contested case at the Board's discretion for such a reasonable period of time as determined by the Administrative Law Judge, but not for a period of less than 20 days. For purposes of this section, an untimely appearance is an appearance not entered within 20 days of the date of the mailing of the notice.

(6) The notice of hearing provided to a licensee for a contested case as defined in this section shall include the following language in capital letters in bold face type: **THE FAILURE TO FILE A TIMELY APPEARANCE IN PERSON OR THROUGH AN ANSWER OR OTHER RESPONSIVE PLEADING TO THE ALLEGATIONS CONTAINED IN THE COMPLAINT WITHIN 20 DAYS OF THE DATE THIS NOTICE WAS MAILED SHALL ENTITLE THE STATE BOARD OF PLUMBING EXAMINERS TO A CONTINUANCE OF THE HEARING FOR A TIME PERIOD SET BY THE ADMINISTRATIVE LAW JUDGE, BUT NOT FOR LESS THAN 20 DAYS.**

(b) Failure to Attend Hearing: Default Judgement

(1) If a respondent fails to appear in person or through their legal representative on the day and at the time set for hearing in a contested case regardless of whether an appearance has been entered, the Administrative Law Judge, upon motion by the Board, shall enter a default judgement in the matter adverse to the respondent who has failed to attend the hearing.

(2) For purposes of this section, default judgement shall mean the issuance of a proposal for decision against the respondent in which the factual allegations against the respondent contained in the Complaint shall be admitted as prima facie evidence, and deemed admitted as true, without any requirement for additional proof to be submitted by the Board.

(3) Any default judgement granted under this section will be entered on the basis of the factual allegations contained in the Complaint, and upon the proof of proper notice to the defaulting party opponent. Such notice also shall include the following language in capital letters in bold face type: **FAILURE TO APPEAR AT THE HEARING WILL RESULT IN THE ALLEGATIONS AGAINST YOU SET OUT IN THE COMPLAINT BEING ADMITTED AS TRUE.**

Source: The provisions of this § 361.27 adopted to be effective October 14, 1996, 21 TexReg 9445; adopted to be effective June 1, 1999, TexReg ;

Sec. 361.28. Preliminary Criminal Reviews.

Sec. 361.28. Preliminary Criminal Reviews.

(a) The Chief Examiner will review applications for examination which contain a response of yes in the felony and misdemeanor box of the form to determine if the individual should be allowed to take the examination. The Chief Examiner, based upon his review, may allow individuals convicted of misdemeanor driving while intoxicated five times or less, or first time misdemeanor possession of controlled substance to take the examination. Any individual not approved by or outside of the authority of the Chief Examiner will be reviewed by the Texas State Board of Plumbing Examiner's Enforcement Committee.

(b) The Chief Field Representative will review all license renewal forms which contain a response of yes in the felony and misdemeanor box of the form to determine if the individual should be allowed to renew their license. The Chief Field Representative, based upon his review, may allow individuals convicted of misdemeanor driving while intoxicated five times or less, or

first time misdemeanor possession of controlled substance to renew their license. Any individual not approved by or outside the authority of the Chief Field Representative will be reviewed by the Texas State Board of Plumbing Examiner's Enforcement Committee.

Source: The provisions of this § 361.28 adopted to be effective October 14, 1996, 21 TexReg 9446; amended to be effective February 5, 1998, 23 TexReg 754, March 30, 1999, 24 TexReg 2352.

Sec. 361.29. Election of Board Officers.

Beginning with the July 1997 Board meeting, the Board shall formally elect a Chairman, Vice-Chairman, and Secretary. Elections will be held every two years. The elected Board officers will take office beginning with the September Board meeting following the elections held at the July Board meeting. Each elected Board officer shall serve a two-year term. If an office becomes vacant for any reason, a special election will be held at the next regularly scheduled board meeting to fill the office for the unexpired term.

Source: The provisions of this § 361.29 adopted to be effective December 5, 1996, 21 TexReg 11485; adopted to be effected June 1, 1999 TexReg ;

Chapter 363 Examination

Sec. 363.1. Qualifications.

(a) An applicant may qualify for a Master Plumber License, Journeyman Plumber License or Plumbing Inspector License. A Master or Journeyman Plumber License may contain a Medical Gas Piping Installation Endorsement or Water Supply Protection Specialist Endorsement. In order to qualify for any of these licenses or endorsements an applicant must meet all the requirements of the Board, successfully complete the required examination and remit the appropriate fee.

(b) Master Plumber. Each applicant must:

(1) be licensed either as:

(A) a Journeyman Plumber in Texas or another state and must have held the Journeyman License for at least two years before filing the Master Plumber application; or

(B) a Master Plumber in another state in which case the applicant need not be currently licensed at the time of application if the expired license is renewable in the state that issued it;

(2) be a high school graduate or hold a General Equivalency Diploma (GED); and

(3) maintain a single registered mailing address that the Board shall regard as the applicant's principal business address for communication and record keeping purposes.

(c) Journeyman Plumber. Each applicant must:

(1) be a high school graduate or hold a General Equivalency Diploma (GED); and

(2) have either of the following:

(A) registration as a registered plumbing apprentice and at least 6,000 hours of experience working at the trade or such work experience and technical training combined to equal 6,000 hours, as verified by employers; or

(B) a Journeyman License from another state that need not be current at the time of application if the expired license is renewable in the state that issued it.

(3) meet the minimum trade experience requirements set forth in subparagraphs (A)-(G) of this paragraph.

(A) 1500 hours in the installation or repair of piping for waste and vent drainage systems. During this period a person should obtain the proper knowledge and skill to install or repair different types of materials used in these systems, e.g., cast iron, plastics, copper.

(B) 1500 hours in the installation or repair of piping for domestic hot and cold water systems. During this period a person should obtain the proper knowledge and skill to install or repair different types of materials used in these systems, e.g., cast iron, plastics, copper, steel and understand the function, difference, and proper installation of various valves, e.g., gate, globe, mixing, etc.

(C) 1500 hours in the installation or repair of fixtures and equipment common to plumbing systems. During this period a person should obtain the proper knowledge and skill to install or repair different types of products used, e.g., water heaters, natural and L.P. gas fired equipment, plumbing fixtures, faucets, water softeners and similar equipment and understand the proper method for sizing and installation of gas appliance vents.

(D) 375 hours in the installation or repair of Piping Hangers and Pipe Support systems. During this period a person should obtain the proper knowledge and skill to install different types of hangers for piping support.

(E) 750 hours in the installation or repair of Special Plumbing systems. During this period a person should obtain the proper knowledge and skill regarding medical gas systems, decorative fountains, lawn irrigation systems and solar panels.

(F) 375 hours of understanding and implementing the Americans with Disabilities Act. During this period a person should become knowledgeable in model plumbing codes and job safety and OSHA requirements as they apply to the plumbing profession.

(G) When the registered apprentice applies to take the Journeyman examination, he/she must submit the Employer's Certification. This form certifies the applicant's work experience complies with the eligibility criteria for the Journeyman examination. If the applicant has met the criteria through employment with one employer, the Employer's Certification must be completed by that employer. However, if the applicant has met the criteria through employment with various employers, then the Employer's Certification must be submitted from each of those employers. Therefore, the Board recommends that the applicant request an employer complete the Employer's Certification each time the applicant discontinues employment with a particular employer. A licensee is required to complete the Employer's Certification form within 30 days of a request by any individual who has worked as a Plumber's Apprentice under the licensee's supervision. It is the responsibility of the Plumber's Apprentice to supply the licensee with the Employer's Certification form.

(d) Plumbing Inspector. Each applicant must:

(1) be a high school graduate or hold a General Equivalency Diploma (GED) and

(2) have one of the following:

(A) a Journeyman or Master Plumber License issued in the state of Texas;

(B) a Journeyman or Master Plumber License issued in another state, provided he or she passes the Texas State Board of Plumbing Examiners Journeyman exam; or

(C) successful completion of the International Association of Plumbing and Mechanical Officials (IAPMO), International Conference of Building Officials (ICBO), or Southern Building Code Congress International (SBCCI) certification. and one of the following:

(1) have completed 5,000 hours of experience working at the plumbing trade or similar skilled work experience and technological training combined to equal 5,000 hours as verified by employers, or;

(2) have completed 500 hours of on-the-job training in enforcement of plumbing codes, supervised under a Licensed Plumbing Inspector, plus 28 hours of approved training academy or educational sessions, or;

(3) be licensed as a Plumbing Inspector by another state with licensing requirements substantially equivalent to the licensing requirements of the Texas State Board of Plumbing Examiners, or;

(4) be licensed by the State of Texas as an architect or engineer.

(e) Exemptions.

The Board in its discretion may waive any examination or application requirement after consideration of a written request from the applicant for an exemption due to hardship.

(f) Medical Gas Piping Installation Endorsement. Each applicant must:

(1) hold a current Journeyman or Master Plumber License; and

(2) have successfully completed a Board approved training program in medical gas piping installation which includes the National Fire Protection Association (NFPA) 99C Gas and Vacuum Systems Latest Edition.

(g) Water Supply Protection Specialist Endorsement. Each applicant must:

(1) hold a current Journeyman or Master Plumber License;

(2) have successfully completed a Board approved training program in backflow prevention; and

(3) have successfully completed a Board approved training program designed around the Federal Safe Drinking Water Act and the Federal Clean Water Act, on-site wastewater and site evaluations and graywater re-use, water quality training and water treatment, water utilities systems and regulations, water conservation, xeriscape irrigation, fire protection systems, and state laws regulating lead contamination in drinking water.

(h) New construction of a graywater system or modification to an existing graywater system must be carried out in accordance with the rules of the Texas State Board of Plumbing Examiners and:

(1) the Uniform Plumbing Code and its appendixes in single family dwelling installations; or

(2) the National Standard Plumbing Code and its appendixes and the National Association of Plumbing-Heating-Cooling Contractors Assessment of On-Site Graywater and Combined Wastewater Treatment and Recycling Systems manual in single family dwelling or commercial installations.

(3) Unless exempted by Section 3 of the Plumbing License Law, new construction of a graywater system or modification to an existing graywater system must be performed under the supervision of a person licensed under the Plumbing License Law. When an on-site disposal field or system is utilized all work past the storage tank must be undertaken by a licensee who meets the certification requirements of the Texas Natural Resource Conservation Commission for on-site sewage facility installations.

Source: The provisions of this § 363.1 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective September 9, 1982, 7 TexReg 3143; amended to be effective September 1, 1983, 8 TexReg 3185; amended to be effective February 9, 1984, 9 TexReg 483; amended to be effective September 1, 1984, 9 TexReg 3250; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785; amended to be effective February 14, 1994, 19 TexReg; amended to be effective April 9, 1998, 23 TexReg 3446; amended to be effective December 9, 1998 Tex Reg 12304; amended to be effective June 1, 1999, TexReg;

amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7176.

Sec. 363.2. Application.

Prior to the examination, each applicant shall furnish to the Board a written application to take the examination, together with any appropriate fees. The application remains in effect for one year from the date of filing or one year from the date of the last examination failure, whichever occurs later. In addition, aliens shall furnish with the application proof of lawful permanent residency in the United States.

Source: The provisions of this § 363.2 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective September 1, 1984, 9 TexReg 3250; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 363.3. Examination Schedule.

The Board shall conduct examinations on a regular basis according to demand and furnish on request information giving the time, date and place of examinations.

Source: The provisions of this § 363.3 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 363.4. Reporting for Examination.

(a) Each applicant must report promptly at the place of the examination.

(b) If an applicant is scheduled for an examination and cannot appear, the applicant must notify the Texas State Board of Plumbing Examiners in writing, postmarked no later than 10 (ten) business days before the original examination date.

(c) An applicant is allowed one emergency reschedule without having to re-apply with a new application and fee.

(d) An applicant must request the emergency reschedule in writing with an explanation of the emergency, postmarked no later than 5 (five) business days after the examination date. Business or work schedule conflicts are not considered emergencies.

(e) An applicant who fails to appear or does not give the required 10 (ten) business days notice or does not have an excused emergency, shall forfeit the examination fee and must re-apply with a new application and fee.

(f) If the applicant has an excused emergency, the applicant has 5 (five) business days after the examination date to notify the Board and reschedule the examination. If the applicant does not reschedule the examination within the 5 (five) business days after the examination date, the applicant must re-apply with a new application and fee.

(g) The following are considered excused emergencies:

- (1) Death in family;
- (2) Illness or hospitalization of applicant or applicants immediate family;
- (3) Automobile accident on day of the examination;
- (4) Other reasons approved by the Chief Examiner.

(h) Emergencies will be subject to verification by the Chief Examiner.

Source: The provisions of this § 363.4 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective June 15, 1998, 23 TexReg 6266.

Sec. 363.5. Description of Examination.

The Board shall conduct for each license and endorsement category a uniform examination that shall include written and practical applications as deemed appropriate by the Board. The Board shall furnish applicants with information titled "General Examination Data" explaining the scope of the examination. The Board may also sell applicants guides to study for the examination.

Source: The provisions of this § 363.5 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785; amended to be effective August 8, 1994, 19 TexReg 5710.

Sec. 363.6. Special Examination Conditions.

The Board, on request, may conduct examinations with special accommodations for individuals who have a disability. All individuals who wish to take an examination with special accommodations must complete the application for non-standard testing accommodations. The Board shall reserve the right to make all final decisions regarding accommodations and it may require a consultation by experts for a second opinion, if it determines that it is necessary for a particular applicant.

Source: The provisions of this § 363.6 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 8, 1994, 19 TexReg 5710; amended to be effective June 7, 1996, 21 TexReg 46; amended to be effective December 9, 1998 TexReg 12304.

Sec. 363.7. Test Score Requirements.

The Board may set and adjust minimum passing scores as it deems appropriate for each license or endorsement category examination.

Source: The provisions of this § 363.7 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785.

Sec. 363.8. Notification.

The Board shall notify applicants of examination results within 30 days after the test is administered, and, if requested within two weeks of notification, shall provide a failed applicant with an analysis of the applicant's examination performance. An applicant who passes may request an analysis of performance at any time.

Source: The provisions of this § 363.8 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 363.9. Reexamination.

(a) Any applicant that fails only one part of a multiple part examination and passes all other parts of the same examination may schedule to retake the one part that was failed, without having to retake the entire examination (subject to the following conditions):

- (1) A passing score is a score of at least 70 points,
- (2) A failing score is a score of 69.9 points or less,
- (3) A time limit of three hours is allotted for reexamination of the one failed part,
- (4) The full examination fee must be submitted with the application for reexamination.

(b) Any applicant that fails more than one part of a multiple part examination must schedule to retake the entire examination.

(c) In cases of examination failure (all or part), the Board shall require the following before the applicant retakes a regularly scheduled examination:

- (1) First failure: a 30-day training period,
- (2) Second failure: a 60-day training period,
- (3) Third and subsequent failures: a 90-day training period.

Source: The provisions of this § 363.9 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8785; amended to be effective December 9, 1998 TexReg 12304.

Sec. 363.10. Disqualification.

The Board may deny an applicant eligibility to take the examination if it discovers that the applicant furnished false information on the application or used any fraudulent means of establishing qualifications. The Board may initiate disciplinary action against any applicant or licensee who furnishes false information on any certifications, other forms, or renewals distributed by the board.

Source: The provisions of this § 363.10 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 7, 1995, 20 TexReg 5502.

Sec. 363.11. Endorsement Training Programs.

(a) Medical gas piping installation training programs

(1) Any person wishing to offer a training program in medical gas piping installation to the public must meet criteria as prescribed by the Board and included in the National Fire Protection Association (NFPA) 99C Gas and Vacuum Systems Latest Edition. Instructors shall be employed by a program that meets certification requirements of the Central Education Agency or is exempted from the Central Education Agency certification requirements under Chapter 32, Texas Education Code, Sec. 32.12(a), (Proprietary Schools and Veterans Education). Such persons shall provide to the administrator lesson plans and instructor credentials. Approved providers of medical gas training shall furnish a program consisting of a classroom presentation of course material, a test of the enrollee's comprehension of the matter, a shop demonstration of the proper brazing procedures by the instructor, and the enrollee's final brazing evidence to the instructor of an accepted vertical and horizontal practice coupon. A minimum of 24 hours shall be assigned to the classroom presentation and testing; a minimum of four hours shall be assigned to the brazing demonstrations. The student enrolled in medical gas training will have completed a minimum of eight hours of practice brazing coupons in an equipped shop. These coupons will be presented to the instructor for grading. The aforementioned hours represent the minimum requirements only; additional time may be included in each segment of the program.

(2) Training programs in medical gas piping installation shall be reviewed at least annually by the Board to ensure that programs have been provided equitably across the state of Texas.

(3) Periodically, the Board shall review training programs in medical gas piping installation for quality in content and instruction in accordance with the National Fire Protection Association (NFPA) 99C Gas and Vacuum Systems Latest Edition. The Board shall also respond to complaints regarding approved programs.

(4) Instructors in medical gas piping installation will be required to successfully complete a Board approved program and be an active licensee of the Board with a Medical Gas Piping

Installation Endorsement. Instructors will be required to pass the Board examination as well as successfully complete a Board approved program of 160 clock hours which meets the following generic criteria. The Board will allow credit for approved courses.

(A) 40 hours to provide the instructor with the basic educational techniques and instructional strategies necessary to plan and conduct effective training programs.

(B) 40 hours to provide the instructor with the basic techniques and strategies necessary to analyze, select, develop, and organize instructional material for effective training programs.

(C) 40 hours to provide the instructor with the basic principles, techniques, theories, and strategies to establish and maintain effective relationships with students, co-workers, and other personnel in the classroom, industry, and community.

(D) 40 hours to provide the instructor with the basic principles, techniques, theories, and strategies to communicate effectively with the use of instructional media.

(E) To maintain his/her status as an approved instructor of medical gas piping installation training, the instructor shall undergo one of the aforementioned training programs every 12 months such that the entire training (160 hours) is complete within four years.

(5) Each approved provider must notify the Board 30 days before conducting classes; the notice shall contain the time(s) and place(s) where the classes will occur.

(6) Each approved provider will perform self-monitoring and reporting as required by the Board.

(b) Water supply protection training programs

(1) Any person wishing to offer a Board approved training program in water supply protection to the public must meet criteria as prescribed by the Board. Instructors shall be employed by a program that meets certification requirements of the Central Education Agency or is exempted from the Central Education Agency certification requirements under Chapter 32, Sec. 32.12(a)(5) Texas Education Code (Proprietary Schools and Veterans Education). Such persons shall provide to the administrator lesson plans and instructor qualifications. The Board shall provide a course outline and the required minimum hours.

(2) Periodically, the Board shall review Board approved training programs in water supply protection for quality in content and instruction and ensure that programs have been provided equitably across the state of Texas. The Board shall also respond to complaints regarding approved programs.

(3) Instructors in water supply protection will be required to pass the Board examination in water supply protection and be an active licensee of the Board with a Water Supply Protection Specialist Endorsement. Instructors will be required to successfully complete a Board approved program of 160 clock hours which meets the following generic criteria. The Board will allow credit for approved courses.

(A) 40 hours to provide the instructor with the basic educational techniques and instructional strategies necessary to plan and conduct effective training programs.

(B) 40 hours to provide the instructor with the basic techniques and strategies necessary to analyze, select, develop, and organize instructional material for effective training programs.

(C) 40 hours to provide the instructor with the basic principles, techniques, theories, and strategies to establish and maintain effective relationships with students, co-workers, and other personnel in the classroom, industry, and community.

(D) 40 hours to provide the instructor with the basic principles, techniques, theories,

and strategies to communicate effectively with the use of instructional media.

(E) To maintain his/her status as an approved instructor of water supply protection training, the instructor shall undergo one of the aforementioned training programs every twelve months such that the entire training (160 hours) is complete within four years.

(4) Each approved provider must notify the Board 30 days before conducting classes; the notice shall contain the time(s) and place(s) where the classes will occur.

(5) Each approved provider will perform self-monitoring and reporting as required by the Board.

Source: The provisions of this § 363.11 adopted to be effective December 8, 1993, 18 TexReg 8785; amended to be effective April 15, 1994, 19 TexReg 2279; amended to be effective June 2, 1994, 19 TexReg 3930; amended to be effective August 8, 1994, 19 TexReg 5710; amended to be effective October 12, 1994, 19 TexReg 7793; amended to be effective August 7, 1995, 20 TexReg 5502; amended to be effective June 7, 1996, 21 TexReg 4687; amended to be effective April 9, 1998, 23 TexReg 3446.

Chapter 365 Licensing

Sec. 365.1. License Categories; Description; Scope of Work Permitted.

The Board shall establish three separate license categories and two endorsement categories, as described in paragraphs (1) - (5) of this section.

(1) Master Plumber -- a license that entitles the individual to perform plumbing work, enter into contracts or agreements to perform plumbing work for the general public and to secure permits to perform plumbing work.

(2) Journeyman Plumber -- a license that entitles the individual to do plumbing work only under the general supervision of Master plumbers and only under contracts or agreements to perform plumbing work secured by Master Plumbers.

(3) Medical Gas Piping Installation Endorsement - an endorsement to a Journeyman or Master Plumber license entitling the individual to install piping that is used solely to transport gases used for medical purposes, including, but not limited to oxygen, nitrous oxide, medical air, nitrogen and medical vacuum.

(4) Plumbing Inspector -- a license that entitles the individual to do plumbing inspections as an employee or agent of a political subdivision for compliance with health and safety laws and ordinances.

(a) A Plumbing Inspector shall not have any financial or advisory interest in any plumbing company.

(b) All compensation paid for a plumbing inspection shall be paid by the political subdivision for which the plumbing inspection is performed.

(c) A Plumbing Inspector shall not accept any compensation or anything of value from any contractor or owner whose work is being inspected by the Plumbing Inspector.

(d) Prior to the performance of any Plumbing Inspection, the Plumbing Inspector must have submitted to the Board written proof of employment or agency for the purposes of performing plumbing inspections by each political subdivision that the Plumbing Inspector is employed by, or an agent of.

(5) Water Supply Protection Specialist -- an endorsement to a Journeyman or Master

Plumber License certifying the individual to perform inspections of public water system distribution facilities or customer-owned plumbing connected to a public water system's distribution lines. The holder of a Water Supply Protection Specialist Endorsement may perform Customer Service Inspections as defined in the Texas Natural Resource Conservation Commission's Rules and Regulations for Public Water Systems. Within the limits of a municipality of 5,000 or more inhabitants, a Water Supply Protection Specialist Endorsement shall not be used in lieu of a Plumbing Inspector License as required under Section 14(a) of the Act to perform plumbing inspections required under Section 15(a) of the Act.

Source: The provisions of this § 365.1 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective September 9, 1982, 7 TexReg 3143; amended to be effective September 1, 1983, 8 TexReg 3186; amended to be effective June 2, 1987, 12 TexReg 1661; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective August 8, 1994, 19 TexReg 5710; amended to be effective June 7, 1996, 21 TexReg 4688; amended to be effective January 31, 1999, 24 TexReg 557; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7176.

Sec. 365.2. Apprentice Registration.

To qualify as a registered plumber's apprentice, one must be at least 16 years of age, be regularly employed in the plumbing trade, and be registered with the Board.

Source: The provisions of this § 365.2 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective September 1, 1983, 8 TexReg 3186; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective August 8, 1994, 19 TexReg 5711; amended to be effective June 7, 1996, 21 TexReg 4688.

Sec. 365.4. Issuance.

(a) The Board shall promptly issue a license or endorsement to qualified applicants. However, the Board may withhold the license or endorsement and require reexamination of any applicant who has not remitted the appropriate licensing fee within 90 days of completion of the examination.

(b) Within one year from the date of passing the Plumbing Inspector's examination, a political subdivision must submit proof to the Board of the individual's employment with or agency for the political subdivision as a Plumbing Inspector with the appropriate licensing fee. If the individual does not comply with this requirement, he/she must undergo reexamination to be eligible for licensing as a Plumbing Inspector.

Source: The provisions of this § 365.4 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective October 12, 1994, 19 TexReg 7793; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7176.

Sec. 365.5. Renewals.

(a) The Board shall inform a licensee of the impending expiration of a license or endorsement by sending written notice at least 30 days before its expiration date to the licensee's last known mailing address according to Board records.

(b) A licensee may renew an unexpired license or endorsement before its expiration date by meeting all renewal requirements and paying the fee required by the Board.

(c) The licensee's failure to receive the notice of expiration will not alter the licensee's responsibility to renew the license each year or endorsement every three years by its expiration date.

(d) In the case of the renewal of a Plumbing Inspector's License, the licensee must submit written proof of employment or agency by a political subdivision along with the required renewal fee.

(e) Any Journeyman Plumber, Master Plumber, or Plumbing Inspector wishing to renew a license must have proof submitted to the Board of successful completion of the required continuing education course or courses, subject to the additional requirement in (f) below.

(f) Any license holder with a medical gas endorsement must complete a Board approved medical gas continuing education class within the three-year period of the endorsement. The classroom hours shall consist of instruction of the most current edition of the National Fire Protection Association (NFPA) 99C, Standard on Gas and Vacuum Systems, and the changes therein. No license holder with a medical gas endorsement may count the same medical gas continuing education class twice towards meeting the continuing education requirements for renewal of the medical gas endorsement on a plumbing license.

Source: The provisions of this §365.5 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective April 15, 1994, 19 TexReg 2280; amended to be effective June 7, 1996, 21 TexReg 4688; amended to be effective December 5, 1996, 21 TexReg 11485; amended to be effective April 9, 1998, 23 TexReg 3446; amended to be effective October 11, 1998, 23 TexReg 9979; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7209.

Sec. 365.6. Expirations.

(a) Any license not properly renewed each year or any endorsement not properly renewed every three years by its expiration date will become invalid on that date and remain invalid until all license renewal requirements are met.

(b) An individual whose license or endorsement has been expired for 90 days or less may renew the license by meeting all renewal requirements, paying the Board the scheduled renewal fee and an additional fee equal to one-half the amount of the examination fee for the license.

(c) An individual whose license or endorsement has been expired for over 90 days but less than two years may renew the license or endorsement by meeting all renewal requirements and paying the Board a sum equal to all unpaid renewal fees plus the examination fee required for the license or endorsement.

(d) No individual may renew a license or endorsement that has been expired for two or more years; however, in such cases an individual can apply for a new license or endorsement by taking the current examination and paying the current fees.

(e) Continuing education requirements must be satisfied prior to the renewal of any expired license.

Source: The provisions of this § 365.6 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective September 1, 1983, 8 TexReg 3186; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7209.

Sec. 365.7. Duplicate License.

The Board shall issue a duplicate license to replace any license lost, destroyed, or mutilated upon receipt of an application for the duplicate, stating the reasons for the request, together with the appropriate fee.

Source: The provisions of this § 365.7 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399.

Sec. 365.8. Change of Name or Address.

(a) Each licensee shall inform the Board in writing of any changes in name or address. After receiving the notification of change of name, together with the appropriate fee, the Board shall issue the licensee a new license reflecting the change.

(b) Each Plumbing Inspector shall inform the Board in writing of each political subdivision that the Plumbing Inspector is employed by or is an agent of, for the purposes of performing plumbing inspections and any changes in agency or employment status within thirty days of status change. The written confirmation of agency or employment must be provided by an authorized representative of each political subdivision.

Source: The provisions of this § 365.8 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg, 7209.

Sec. 365.9. Reprimand, Suspension, Revocation.

(a) As provided in the Act and in Texas Civil Statutes, article 6252-13a, the Board shall reprimand a licensee, or suspend or revoke his or her license for obtaining a license or endorsement through fraud, false information, or error, a violation of the Act, of these rules, of a Board order, or of local codes, ordinances, or standards of competency, in accordance with procedures set forth in the Act, the administrative act, and these rules.

(b) The Board shall institute an investigation upon receipt of a valid written complaint from any person or agency setting forth the details of alleged fraud, false information, error, or violation within the jurisdiction of the Board.

(c) A person informed by the Board of proposed refusal, suspension, or revocation of a license or endorsement is entitled to a hearing before the Board as described in these rules. In order to determine competency, plumbing examinations may be administered to licensees accused of incompetency or willful violation.

Source: The provisions of this § 365.9 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg, 7209.

Sec. 365.10. Application for License or Endorsement after Revocation.

Any individual whose license or endorsement has been revoked may apply to the Board for a new license or endorsement after a waiting period of at least one year from the date of revocation. The Enforcement Committee shall be delegated the authority of making the initial review of a previously revoked license. If the committee decides to deny the application for a new license, it shall proceed in the same manner it would if presented any other application it believes should be denied. If the committee makes a decision to approve the applicant's request, it must none the less

be presented for approval before the Board members, at a regularly scheduled Board meeting to approve the applicant's request, if approved, then the applicant is to follow the same licensing procedures required of a first-time licensee.

Source: The provisions of this § 365.10 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective December 8, 1993, 18 TexReg 8786; amended to be effective October 14, 1996, 21 TexReg 9446.

Sec. 365.11. Exemptions.

(a) The following plumbing work shall be permitted without a license but shall be subject to inspection and approval in accordance with local city or municipal ordinances:

- (1) Plumbing work done by a property owner in a building designated as that person's homestead;
- (2) Plumbing work done outside the limits of any city, town, or village in Texas or within any such municipality with a population of less than 5,000, unless otherwise stated by ordinance in such city;
- (3) Installation of on-site sewage disposal systems done outside municipalities of greater than 5,000 inhabitants or done inside municipalities who voluntarily comply with the Plumbing License Law;
- (4) Work done on existing plumbing by a maintenance man or maintenance engineer, as defined in the Rules, that is incidental or connected to other maintenance duties, provided that such person does not engage in plumbing work for the general public;
- (5) Plumbing work done by a railroad employee on the premises or equipment of a railroad, provided such person does not engage in plumbing work for the general public;
- (6) Plumbing work done by employees of any public utility company in the installation, operation, and maintenance of service mains or lines and all types of appurtenances, equipment, and appliances associated with service mains or lines;
- (7) Appliance installation or appliance service work done by bona fide appliance dealers and their employees that do not offer to perform plumbing work to the general public, in connecting appliances to existing piping, unless the connection also requires cutting into existing piping, performing any work on the sewer side of a properly installed trap, or working on the supply side of or replacing valves provided for appliance installation, in which case a licensed plumber must perform the pre-connection work;
- (8) Irrigation work done by an individual working and licensed under Chapter 34 of the Texas Water Code, as amended, as an irrigator or installer;
- (9) LP Gas service and installation work done by an individual working and licensed as a LP Gas Installer; and
- (10) Persons holding a Water Treatment Certificate from the Texas Natural Resource Conservation Commission may engage in residential water treatment activities involving the cutting into and making connections with a potable water supply system. However, if the activities involve connections to the sewer, soil, or waste line, only a licensed plumber may perform the connection work.

(b) The Board may waive the requirement that an individual hold a Journeyman License for two years prior to eligibility for a Master License, after consideration of a written request for an exemption due to hardship. Generally, the Board may consider the waiver if circumstances due to

the withholding of the master license or examination would:

- (1) prevent the continued operation of an established plumbing business;
- (2) endanger the public health, safety, or welfare; or
- (3) result in inequity, in the judgment of the Board.

(c) The Board may waive any licensing requirement after consideration of a written request from the holder of a current plumbing license from another state having license requirements substantially equivalent to those of this state.

Source: The provisions of this § 365.11 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective April 15, 1994, 19 TexReg 2280; amended to be effective August 8, 1994, 19 TexReg 5711; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7209.

Sec. 365.12. Licensing of Persons with Criminal Backgrounds.

(a) No currently incarcerated felon will be eligible to obtain or renew any license.

(b) As provided in the Texas Civil Statutes, article 6252-13c and article 6252-13d, the Board may suspend or revoke an existing valid license, disqualify a person from receiving a license, or deny eligibility to take an examination for a license if that person has been convicted of a felony or misdemeanor that directly relates to the duties and responsibilities of the licensed occupation.

(c) The Board shall revoke the license of an individual and shall not issue a license to an individual upon his or her felony conviction, felony probation revocation, revocation of parole, or revocation of mandatory supervision if that individual is physically incarcerated. The Board will not register an individual as a registered apprentice if that person is currently physically incarcerated.

(d) The Board considers the following crimes to relate directly to the duties and responsibilities of licensed plumbers and plumbing inspectors (the list is not exclusive):

- (1) any felony or misdemeanor of which fraud is a factor;
- (2) any criminal violation of the plumbing laws of this or any other state, or of local codes and ordinances;
- (3) any criminal violation of statutes that protect consumers against unlawful plumbing practices;
- (4) murder;
- (5) burglary;
- (6) robbery;
- (7) rape;
- (8) child molesting;
- (9) sexual assault;
- (10) aggravated assault;
- (11) any violent crime against the person involving knowledge or purpose;
- (12) theft;
- (13) possession of a controlled substance and;
- (14) multiple convictions of driving while intoxicated.

Source: The provisions of this § 365.12 adopted to be effective May 18, 1982, 7 TexReg 1748; amended to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 8,

1994, 19 TexReg 5711; amended to be effective August 7, 1995, 20 TexReg 5504; amended to be effective June, 1, 1999, TexReg 4014;

Sec. 365.13. Licensing of Guaranteed Student Loan Defaulters.

(a) The Board shall refuse to renew the license of a licensee whose name is on the list of those who have defaulted on student loans published by the Texas Guaranteed Students Loan Corporation (hereinafter TGSLC) unless:

- (1) the renewal is the first renewal following the Board's receipt of a TGSLC list including the licensee's name among those in default; or
- (2) the licensee presents to the Board a certificate issued by the TGSLC certifying that:
 - (A) the licensee has entered into a repayment agreement on the defaulted loan;

or

(B) the licensee is not in default on a loan guaranteed by the Corporation.

(b) The Board may issue an initial license to a person on TGSLC's list of defaulters who meets all other qualifications for licensing but shall not renew the license unless the licensee presents to the Board a certificate issued by the TGSLC certifying that:

- (1) the licensee has entered into a repayment agreement on the defaulted loan; or
- (2) the licensee is not in default on a loan guaranteed by the TGSLC.

(c) The Board shall not renew the license of a licensee who defaults on a repayment agreement unless the person presents to the Board a certificate issued by the TGSLC certifying that:

- (1) the licensee has entered into another repayment agreement on the defaulted loan; or
- (2) the licensee is not in default on a loan guaranteed by the TGSLC or on a repayment agreement.

(d) The Board will provide the licensee identified by the TGSLC as being in default with written notice of his or her default status at least 30 days before the expiration date of the license to the last known mailing address according to the Board's records.

(e) A person informed by the Board of his or her default status according to the TGSLC shall be provided an opportunity for a hearing, if requested by the licensee, in accordance with these rules.

Source: The provisions of this § 365.13 adopted to be effective August 25, 1993, 18 TexReg 5399; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7209.

Sec. 365.14. Continuing Professional Education Programs.

(a) - Course Materials - Beginning in preparation for the 2000-2001 Continuing Professional Education year (begins on July 1, 2000), the Board will annually approve Course Materials to be used for the Continuing Professional Education (CPE) required for renewal of Journeyman Plumber, Master Plumber and Plumbing Inspector Licenses. The Course Materials are the printed materials that are the basis for a substantial portion of a CPE course and which are provided to the Licensees. Board approval of Course Materials will be subject to all of the terms and conditions of this Section. The following minimum criteria will be used by the Board in considering approval of Course Materials:

- (1) The Course Materials will provide the basis for a minimum of six classroom hours of study. Three of the six hours will be in the subjects of health protection, energy conservation and water conservation, with the remaining three hours covering subjects which shall include

information concerning the Act, Board Rules, current industry practices and codes, and subjects from lists of approved subjects published by the Board.

(2) The Board will periodically publish lists of approved subjects.

(3) The Course Materials must be presentations of relevant issues and changes within the subject areas as they apply to the plumbing practice in the current market or topics which increase or support the Licensee's development of skill and competence.

(4) The provider of the Course Materials must provide the Course Materials, as needed, in correspondence course form to comply with Sec. 12B(d) of the Act, which are to be made available for at least three (3) years or as necessary for renewal of an expired license.

(5) The Course Materials may not advertise or promote the sale of goods, products or services.

(6) The Course Materials must be printed and bound and must meet the following minimum technical specifications for printing and production:

(A) Binding - Perfect or Metal Coiled,

(B) Ink - Full Bleed Color,

(C) Cover Material - 80 Pound Gloss Paper,

(D) Page Material - 70 Pound

(7) The Course Materials will include perforated Board forms within the binding of the Course Materials that may be removed for use by the Licensees. The forms will include CPE evaluation forms, License and Endorsement examination forms and General Complaint forms.

(8) All Course Materials must have the following characteristics:

(A) Correct grammar, spelling and punctuation,

(B) Appropriate illustrations and graphics to show concepts not easily explained in words, and

(C) In depth and comprehensive presentation of subject matter which increases or supports the skills or competence of the Licensees.

(9) The provider of Course materials must have legal ownership of or an appropriate license for the use of all copyrighted material included within the Course materials. Board approved Course materials will contain a prominently displayed approval statement in 10 point bold type or larger containing the following language:

"THIS CONTINUING PROFESSIONAL EDUCATION COURSE MATERIAL HAS BEEN APPROVED BY THE TEXAS STATE BOARD OF PLUMBING EXAMINERS FOR USE IN THE (state year) CPE YEAR. BY ITS APPROVAL OF THIS COURSE MATERIAL, THE TEXAS STATE BOARD OF PLUMBING EXAMINERS DOES NOT ASSUME ANY RESPONSIBILITY FOR THE ACCURACY OF THE CONTENTS OF THE COURSE MATERIAL. FURTHER, THE TEXAS STATE BOARD OF PLUMBING EXAMINERS IS NOT MAKING ANY DETERMINATION THAT THE PARTY PUBLISHING THE COURSE MATERIALS HAS COMPLIED WITH ANY APPLICABLE COPYRIGHT AND OTHER LAWS IN PUBLISHING THE COURSE MATERIAL AND THE TEXAS STATE BOARD OF PLUMBING EXAMINERS DOES NOT ASSUME ANY LIABILITY OR RESPONSIBILITY THEREFOR. THE COURSE MATERIAL IS NOT BEING PUBLISHED BY NOR IS IT A PUBLICATION OF THE TEXAS STATE BOARD OF PLUMBING EXAMINERS."

(10) The provider of Course Materials will conduct instructor training in the use of Course Materials.

(11) The provider of Course Materials will be required to have distribution facilities

that will ensure prompt distribution of course materials, facsimile ordering and a statewide toll free telephone number for placing orders. The provider of Course Materials must ship any ordered material within ten business days after the receipt of the order and payment for the course materials.

(12) The Board shall annually approve only individuals, businesses or associations to provide Course Materials. Any individual, business or association who wishes to offer to provide Course Materials shall apply to the Board for approval using application forms prepared by the Board. In order to be approved, the application must satisfy the Board as to the ability of the individual, business or association to provide quality Course Materials as required in this Section and must include:

- (A) name and address of individual applicant,
- (B) names and addresses of all officers, directors, trustees or members of the governing board of any business or association applicant,
- (C) statement by individual applicant, and each officer, director, trustee or member of governing board as to whether he or she has ever been convicted of a felony or misdemeanor other than a minor traffic violation,
- (D) certificate of good standing issued by the Texas Comptroller of Public Accounts for business or association applicants,
- (E) fees to be charged for Course Materials,
- (F) taxpayer identification number,
- (H) method for quarterly reporting of Course Provider, Instructors, and Licensee evaluations of Course Materials to the Board,

13) The provider of Course Materials must sell Course Materials to all Course Providers and Licensees at the same price as stated in the application.

(14) The Board may refuse to accept any application for approval as a provider of Course Materials that is not complete. The Board may deny approval of an application for any of the following reasons:

- (A) failure to comply with the provisions of this section;
- (B) inadequate coverage of the materials required to be included in Course Materials; or
- (C) unsatisfactory evaluations of the Course Materials by Course Providers, Instructors, Licensees, or Board staff.

(15) If an application is refused or disapproved, written notice detailing the basis of the decision shall be provided to the applicant.

(16) A provider's authority to offer the Course Materials for which CPE credit is given expires on June 30 of the following calendar year after approval.

(17) Course Materials to be approved for the 2000-2001 CPE year must be submitted in complete draft form (at least 20 copies) to the Board's office no later than May 15, 2000, for Board approval at its May, 2000 Board meeting. At least 50 copies each of all Course Materials that are approved at the Board's May, 2000 Board meeting shall be provided to the Board's office no later than July 1, 2000 at no cost to the Board.

(18) All providers of Course Materials must meet the following time schedule each year for approval of Course Materials to be used for the 2001-2002 and following CPE years:

- (A) At least 20 copies each of the final draft version of the Course Materials must be submitted to the Board's office no later than December 1 for Board approval at its January

Board meeting, unless an extension is requested at or before the January Board meeting and granted by the Board.

(B) At least 20 copies each of the revised and completed version of the Course Materials must be submitted to the Board's office no later than February 15 for Board approval at its March Board meeting, unless an extension is requested at or before the March Board meeting and granted by the Board.

(C) At least 50 copies each of all Course Materials that are approved at the Board's March Board meeting shall be provided to the Board's office no later than July 1 at no cost to the Board.

(19) A provider's failure to comply with this section constitutes grounds for disciplinary action against the provider or for disapproval of future applications for approval as a provider of Course Materials.

(b) Course Providers -The Board will annually approve only individuals, businesses or associations as Course Providers. Course Providers will offer classroom and correspondence instruction in the Course Materials used for the Continuing Professional Education (CPE) required for renewal of all licenses issued under the Act. Board approval of Course Providers will be subject to all of the terms and conditions of this Section. The following minimum criteria will be used by the Board in considering approval of Course Providers:

(1) CPE courses shall be presented in one of the following formats:

(A) Six classroom hours presented on one day

(B) Two sessions of three classroom hours each presented within a seven day period or

(C) An approved correspondence course.

(2) Not less than three hours of the classroom course will be in the subjects of health protection, energy conservation and water conservation.

(3) Presentations must be based primarily on the Course Materials and any other materials approved by the Board.

(4) In addition to Course Materials, presentations may include videos, films, slides or other appropriate types of illustrations and graphic materials related to the Course Materials.

(5) Course Providers shall limit the number of students for any CPE class to forty-five (45).

(6) A Course Provider may not advertise or promote the sale of any goods, products or services between the opening and closing hours of any CPE class.

(7) Each Course Provider shall furnish a uniquely numbered Certificate of Completion of CPE to each Licensee, but only after the licensee has completed the CPE course. The Board will assign the unique numbers to be used on each Certificate to each Course Provider.

(8) Each Course Provider shall, at its own expense and in a format approved by the Board, electronically transmit to the Board certification of each Licensee's completion of CPE requirements within forty-eight hours of completion.

(A) The Board may provide training to the Course Provider in the method for electronic transmittal.

(B) The Board may charge a fee to recover its costs for computer software and training in the use of the software to the Course Provider.

(9) Each Course Provider shall be reviewed annually by the Board to ensure that classes

have been provided equitably across the state of Texas, except as provided in Sec. 365.14(b)(15)(J).

(10) Each Course Provider must notify the Board at least 7 days before conducting classes; the notice shall contain the time(s) and place(s) where the classes will occur.

(11) Each Course Provider will perform self-monitoring and reporting as required by the Board.

(12) Each Course Provider shall use only Course Instructors that have been approved by the Board. Each Course Provider shall annually submit to the Board's office a list of Course Instructors it employs and the instructors' credentials for approval.

(A) Lists of Course Instructors to be approved for the 2000-2001 CPE year must be submitted no later than May 15, 2000 for approval by the Board at its May, 2000 meeting, unless an extension is requested at or before the May Board meeting and granted by the Board.

(B) Lists of Course Instructors to be approved for the 2001-2002 and later CPE years must be submitted each year no later than February 15 for approval by the Board at its March Board meeting, unless an extension is requested at or before the March Board meeting and granted by the Board.

(13) Prior to allowing Course Instructors to teach CPE, Course Providers must provide documentation to the Board showing the instructor's successful completion of Course Materials training.

(14) Course Instructors must comply with Section (c) of this Section. Course Providers shall notify the Board within 10 days of any change of an instructor's employment status with the Course Provider.

(15) Any individual, business or association who wishes to be a Course Provider shall apply to the Board for approval using application forms prepared by the Board. In order to be approved, the application must satisfy the Board as to the ability of the individual, business or association to provide quality instruction in the Course Materials as required in this Section and must include:

(A) name and address of individual applicant,

(B) names and addresses of all officers, directors, trustees or members of the governing board of any business or association applicant,

(C) statement by individual applicant, and each officer, director, trustee or member of governing board as to whether he or she has ever been convicted of a felony or misdemeanor other than a minor traffic violation,

(D) certificate of good standing issued by the Texas Comptroller of Public Accounts for business or association applicants,

(E) taxpayer identification number,

(F) facsimile number, statewide toll free telephone number, Internet web site or electronic mail address,

(G) fees to be charged to Licensees for attending the course, considering the following:

(1) If the Course Provider is not also a provider of Course Materials and will purchase Course Materials, the Course Provider may not charge the Licensees more than its actual cost for the Course Materials supplied to the Licensees by the Course Provider.

(2) The fees charged to the Licensees for attending the course will be

determined by the Course Provider.

(H) an example of a Licensee's Certificate of Completion of CPE,

(I) CPE class scheduling plan,

(J) plan for providing courses equitably across the state (the following individuals or businesses will not have to comply with this Subparagraph (J) :

(1) Employers applying to be approved as Course Providers for the purpose of providing CPE courses only to the employers' employees, and

(2) Individuals who will not employ Course Instructors other than themselves),

(K) method for quarterly reporting compilations of Licensee evaluations of Course Provider and Course Instructors to the Board and

(L) method for ensuring that only Licensees who meet one or more of the following requirements may receive CPE credit for taking an CPE correspondence course:

(1) any Licensee that lives outside of the State of Texas, or

(2) lives in a county that does not have a city with a population in excess of 100,000, or

(3) who has an expired license that requires a CPE course that is no longer available in the classroom,

(M) identification of the Course Materials which will be used by the Course Provider.

(16) The Board may refuse to accept any application for approval as a Course Provider that is not complete. The Board may deny approval of an application for any of the following reasons:

(A) failure to comply with the provisions of this section;

(B) inadequate instruction of the materials required to be included in Course Materials; or

(C) unsatisfactory evaluations of the Course Provider by Licensees or Board staff.

(17) If an application is refused or disapproved, written notice detailing the basis of the decision shall be provided to the applicant.

(18) A Course Provider's authority to offer instruction in the Course Materials for which CPE credit is given expires on June 30, of the following calendar year after approval.

(19) Beginning with the 2000-2001 CPE year, the Board will establish the deadline in which applications must be submitted after the effective date of this rule. For the 2001-2002 and following CPE years, all Course Provider applications must be submitted to the Board office no later than December 1, each year for approval at the Board's January meeting, unless an extension is requested at or before the January Board meeting and granted by the Board.

(20) The Board shall review Course Providers for quality in instruction. The Board shall also investigate and take appropriate action, up to and including revocation of authority to provide CPE, regarding complaints involving approved Course Providers.

(21) A provider's failure to comply with this section constitutes grounds for disciplinary action, up to and including revocation of authority to provide CPE, against the provider or for denial of future applications for approval as a Course Provider.

(c) Course Instructors - The Board will annually approve Course Instructors to provide the classroom instruction in the Course Materials used for the Continuing Professional Education

(CPE) required for renewal of Journeyman Plumber, Master Plumber and Plumbing Inspector Licenses. Board approval of Course Instructors will be subject to all of the terms and conditions of this Section. An individual who wishes to be approved by the Board as a Course Instructor must apply to the Board using an application form approved by the Board. The following minimum criteria will be used by the Board in considering approval of Course Instructors:

(1) Instructors must be licensees of the Board and attend and successfully complete a Course Instructor Certification Workshop each year conducted by the Board (the Board will charge a fee to recover its costs for conducting the Course Instructor Certification Workshop).

(2) Instructors will be required to successfully complete a Board approved program of 160 clock hours which meets the following criteria. The Board will allow credit for approved courses.

(A) 40 hours to provide the Instructor with the basic educational techniques and instructional strategies necessary to plan and conduct effective training programs.

(B) 40 hours to provide the Instructor with the basic techniques and strategies necessary to analyze, select, develop, and organize instructional material for effective training programs.

(C) 40 hours to provide the Instructor with the basic principles, techniques, theories, and strategies to establish and maintain effective relationships with students, co-workers, and other personnel in the classroom, industry, and community.

(D) 40 hours to provide the Instructor with the basic principles, techniques, theories, and strategies to communicate effectively with the use of instructional media.

(E) To maintain his/her status as an approved Course Instructor, the Instructor shall undergo one of the aforementioned training programs every 12 months such that the entire training (160 hours) is complete within four years.

(3) A Course Instructor may not advertise or promote the sale of goods, products, or services between the opening and closing hours of any CPE class.

(4) As a Course Instructor and Licensee of the Board, a Course Instructor must comply with the Plumbing License Law and Board Rules, including Sec. 367.2 of the Board Rules regarding Standards of Conduct. An Instructor has a responsibility to his students and employer to:

(A) be well versed in and knowledgeable of the Course Materials,

(B) maintain an orderly and professional classroom environment and

(C) coordinate with the Course Provider to develop an appropriate method for handling disorderly and disruptive students. A Course Instructor shall report to the Course Provider and the Board, any non-responsive and disruptive student who attends a CPE course. The Board may deny CPE credit to any such student and require, at the students expense, successful completion of an additional CPE course to receive credit.

(5) The Board shall review Course Instructors for quality of instruction. The Board shall also respond to complaints regarding Course Instructors.

(6) A Course Instructor's failure to comply with this section constitutes grounds for disciplinary action against the Instructor or for disapproval of future applications for approval as a Course Instructor.

Source: The provisions of this § 365.14 adopted to be effective December 8, 1993, 18 TexReg 8786; amended to be effective June 2, 1994, 19 TexReg 3931; amended to be effective February 2, 1995, 20 TexReg 333; amended to be effective August 7, 1995, 20 TexReg 5504; amended to be

effective October 14, 1996, 21 TexReg 9447; amended to be effective December 5, 1996, 21 TexReg 11486; amended to be effective October 5, 1999, 24 TexReg 8551; New Rule adopted on May 14, 2000, 25 TexReg, 3955.

Chapter 367 Enforcement

Sec. 367.1. General Provisions.

(a) Enforcement of all applicable laws including the Act, Board rules, and Board orders vests in the Board.

(b) Enforcement of the Act, local codes, and ordinances, and local standards of competency vests in local authorities. The Board may take disciplinary actions as specified in Chapter 365 of this title, related to licensing, in the event of any violation of any of these requirements.

(c) Each locally designated plumbing inspector should enforce the Act and municipal ordinances and should file complaints with the Board and with local prosecutors.

(d) The Board shall appoint a person knowledgeable of plumbing practice and law as field representative to assist in the enforcement of the Act. The field representative may:

- (1) Inspect plumbing work sites to assess compliance with the Law;
- (2) Inquire into consumer complaints and reported violations of the Law;
- (3) Assist municipal authorities in enforcing the Act; and
- (4) Issue citations for violations of the Act.

(e) The Board adopts the Southern Standard Plumbing Code, the Uniform Plumbing Code, and the National Standard Plumbing Code as approved plumbing codes for the State of Texas.

(f) A city, town, or village must adopt a plumbing code that does not substantially vary with the approved state codes, conflict with other state laws, or reduce the overall standards of a minimum code. Political subdivisions may require higher minimum standards as needed in order to protect the health and safety of their citizens.

(g) Any owner of a public water system other than a city, town or village may adopt a plumbing code that does not substantially vary with the approved state codes, conflict with other state laws, or reduce the overall standards of a minimum code, and shall otherwise ensure that standards for the design, installation and maintenance of water utility systems comply with minimum requirements promulgated by the Texas Natural Resource Conservation Commission, including but not limited to those provisions ensuring detection and elimination of cross connections and those provisions preventing the use of pipes and pipe fittings containing unacceptable levels of lead.

(h) The potable water supply piping for every plumbing fixture, including water closet plumbing fixtures and other equipment that use water shall be installed to prevent the back flow of non-potable substances into the potable water system according to the provisions of an adopted plumbing code. Water closet fill valves (ball cocks) shall be of the anti-siphon, integral vacuum breaker type with the critical level (the air inlet portion of the vacuum breaker) installed at least one inch (1") above the flood level rim of the fixture (the inlet of the water closet overflow tube).

Source: The provisions of this § 367.1 adopted to be effective August 25, 1993, 18 TexReg 5400; amended to be effective December 8, 1993, 18 TexReg 8787; amended to be effective August 8, 1994, 19 TexReg 5711; amended to be effective February 5, 1998, 23 TexReg 755.

Sec. 367.2. Standards of Conduct.

(a) Offer to Perform Services. The plumbing licensee:

(1) shall accurately and truthfully represent to any prospective client or employer his or her capabilities and qualifications to perform the services to be rendered;

(2) may not offer to perform, nor perform, technical services for which he or she is not qualified by education or experience, without retaining the services of another who is so qualified; and

(3) may not evade responsibility to a client or employer.

(b) Conflicts of Interest. The plumbing licensee:

(1) may not agree to perform services for a client or employer if any significant financial or other interest exists that may be in conflict with the obligation to render a faithful discharge of such services, or would impair independent judgment in rendering such services, except with the full knowledge, approval, and consent of the client or employer;

(2) shall withdraw from employment when it becomes apparent that it is not possible to faithfully discharge the duty and performance of services owed the client or employer, but then only upon reasonable notice to the client or employer; and

(3) may not accept remuneration from any person other than the client or employer for a particular project, nor have any other financial interest in other service or phase of service to be provided for the project, unless the client or employer has full knowledge and so approves.

(c) Representations. The plumbing licensee:

(1) may not indulge in advertising that is false, misleading, deceptive, or which does not clearly display the licensees' state license number;

(2) may not misrepresent the amount or extent of prior education or experience to any employer or client, or to the Board;

(3) shall represent to a prospective client or employer as accurately and truthfully as is reasonably possible the costs and completion time of a proposed project; and

(4) may not hold out as being engaged in partnership or association with any person unless a partnership or association exists in fact.

(d) Compliance with Board orders. The licensee shall comply fully with all Board orders.

(e) Responsibilities of Plumbing licensees outside the municipal limits of any organized city, town or village in this state, or within any such city, town or village of less than 5,000 inhabitants. The responsibilities of plumbing licensees outside the municipal limits of any organized city, town or village in this state, or within any such city, town or village of less than 5,000 inhabitants are the same as those responsibilities within any city, town or village in excess of 5,000 inhabitants. In areas where no plumbing code is adopted one of the state approved codes shall be followed by the license plumber.

Source: The provisions of this § 367.2 adopted to be effective August 25, 1993, 18 TexReg 5400; amended to be effective June 2, 1994, 19 TexReg 3931; amended to be effective December 5, 1996, 21 TexReg 11486.

Sec. 367.3 Requirement for Plumbing Companies.

(a) A company offering to do plumbing work must secure the services of at least one Responsible Master Plumber holding a current master plumber's license. A Responsible Master Plumber shall not allow any person, firm, company, or corporation to use his or her master plumber's license for any purpose unless the master plumber is a bona fide employee of the

person, firm, company, or corporation or is the owner of the firm, company, or corporation that will use the master plumber's license. A Responsible Master Plumber's license shall be used by only one such person, company, firm, or corporation. The Responsible Master Plumber shall be knowledgeable of and responsible for all permits, contracts, and agreements to perform plumbing work secured and plumbing work performed under his or her master plumber's license. All work performed under the Responsible Master Plumber's license shall be within the sight of and under the direct control and on-the-job supervision of a licensed plumber that is a bona fide employee of the person, or bona fide employee, owner of the firm, company, or corporation using the master plumber's license.

(b) A company offering to install pipe used solely to transport gases for medical purposes must first secure the services of at least one Responsible Master Plumber that holds a current master plumber license that contains a current medical gas endorsement issued by the Board to be responsible for the installation of all pipe used solely to transport gases for medical purposes installed by that company and permits required to install that piping. That master plumber with the medical gas endorsement shall be responsible for generally supervising any individuals involved in the installation of pipe used solely to transport gases for medical purposes installed by that company and insuring that all medical gas pipe assembly, brazing, and installation of required pipe markings is performed only by a licensed plumber holding a current medical gas endorsement issued by the Board. The relationship between the master plumber and the company using his master license with the medical gas endorsement must be as defined in subsection (a) of this section.

Source: The provisions of this § 367.3 adopted to be effective August 25, 1993, 18 TexReg 5400; amended to be effective June 2, 1994, 19 TexReg 3932; amended to be effective June 7, 1996, 21 TexReg 4689; amended to be effective April 9, 1998, 23 TexReg 3447.

Sec. 367.4. Display of License.

Responsible Master licensees shall display the frameable certificate license in their place of business and all licensees shall carry the pocket card license with them while engaged in work. Each responsible master plumber shall display permanently the master plumber license number and company name on both sides of all service vehicles used in conjunction with plumbing contracting by the responsible master plumber. For the purposes of this rule a magnetic sign on a vehicle is not a permanent sign. The letters and numbers shall be not less than two (2) inches high and shall be in a color sufficiently different from the body of the vehicle so that the letters and numbers shall be plainly legible at a distance of not less than one hundred (100) feet.

Source: The provisions of this § 367.4 adopted to be effective August 25, 1993, 18 TexReg 5400; amended to be effective April 15, 1994, 19 TexReg 2280; amended to be effective June 7, 1996, 21 TexReg 4689; amended to be effective October 14, 1996, 21 TexReg 9447.

Sec. 367.5. On-Site License Checks.

The Board may conduct on-site license checks of individuals engaged in plumbing or plumbing inspection as it deems appropriate. The Board may initiate disciplinary actions against those discovered without a license, or may refer the violations to local authorities for enforcement and disposition.

Source: The provisions of this § 367.5 adopted to be effective August 25, 1993, 18 TexReg 5400.

Sec. 367.6. Nonperformance of Service.

The Board may consider complaints of nonperformance of plumbing contract or agreement to render services as grounds for disciplinary action. Any person, agency, or local authority may file such a complaint.

Source: The provisions of this § 367.6 adopted to be effective August 25, 1993, 18 TexReg 5400.

Sec. 367.7. Violations of Standards and Practices.

(a) The Board may take disciplinary actions as specified in chapter 365 of these rules (relating to Licensing) in the event of any violation of any of these requirements.

(b) A person commits a Class C misdemeanor by:

(1) Violating the act or the rules adopted under it;

(2) Performing non-exempt plumbing work without holding a valid license or endorsement issued through the Board;

(3) Employing an unlicensed individual to perform activities that by law require the skills and supervision of a licensed plumber without providing for that unlicensed individual's supervision as specified by 367.3 of this title (relating to requirement for plumbing companies).

(4) Proclaiming through advertising or by producing another's plumbing license or license number or by other means claiming that a person is a licensed plumber when in fact that person is not a plumber licensed by the Board or that a plumbing company has secured the services of a master plumber as specified in §367.3 of this title, when in fact that company has not;

(5) Acting, serving, or representing oneself as a Plumbing Inspector, or conducting plumbing inspections as defined in the Act and Board Rules without holding a valid Plumbing Inspector License and without being employed by, or an agent of a political subdivision.

(c) A person who violates any provision of the act or these rules or any other order of the Board is subject to a penalty of not less than \$50 or more than \$1,000 for each violation and for each day of violation after notification.

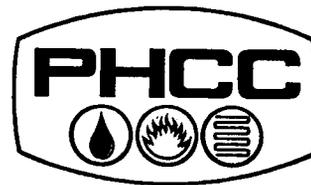
Source: The provisions of this § 367.7 adopted to be effective August 25, 1993, 18 TexReg 5400; amended to be effective December 8, 1993, 18 TexReg 8787; amended to be effective August 16, 1996, 21 TexReg 7377; amended to be effective August 3, 2000, 25 July 28, 2000 TexReg 7176.

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UNIFORM PLUMBING CODE™



1994 EDITION

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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS
A Nonprofit Association

APPENDIX G

GRAYWATER SYSTEMS FOR SINGLE FAMILY DWELLINGS

G 1 Graywater Systems – General

- (a) The provisions of this appendix shall apply to the construction, alteration, and repair of graywater systems for underground landscape irrigation. Installations shall be allowed only in single family dwellings. The system shall have no connection to any potable water system and shall not result in any surfacing of the graywater. Except as otherwise provided for in this appendix, the provisions of this Code shall be applicable to graywater installation.
- (b) The type of system shall be determined on the basis of location, soil type, and groundwater level, and shall be designed to accept all graywater connected to the system from the residential building. The system, except as otherwise approved, shall consist of a holding tank or tanks which discharge into subsurface irrigation/disposal fields.
- (c) No graywater system, or part thereof, shall be located on any lot other than the lot which is the site of the building or structure which discharges the graywater; nor shall any graywater system or part thereof be located at any point having less than the minimum distances indicated in Table G-1.
- (d) No permit for any graywater system shall be issued until a plot plan with appropriate data satisfactory to the Administrative Authority has been submitted and approved. When there is insufficient lot area or inappropriate soil conditions for adequate absorption of the graywater, as determined by the Administrative Authority, no graywater system shall be permitted.
- (e) No permit shall be issued for a graywater system on any property in a geologically sensitive area, as determined by the Administrative Authority.
- (f) Private sewage disposal systems existing or to be constructed on the premises shall comply with Appendix I of this Code. In addition, appropriate clearances from the graywater systems shall be maintained as provided in Table G-1. The capacity of the private sewage disposal system, including required future areas, shall not be decreased or otherwise affected by the existence or proposed installation of a graywater system servicing the premises.

G 2 Definition

Graywater is untreated household waste water which has not come into contact with toilet waste. Graywater includes used water from bathtubs, showers, bathroom wash basins, and water from clotheswashing machines and laundry tubs. It shall not include waste water from kitchen sinks or dishwashers.

G 3 Permit

It shall be unlawful for any person to construct, install, or alter, or cause to be constructed, installed, or altered any graywater system in a building or on a premises without first obtaining a permit to do such work from the Administrative Authority.

G 4 Drawings and Specifications

The Administrative Authority may require any or all of the following information to be included with or in the plot plan before a permit is issued for a graywater system or at any time during the construction thereof:

- (a) Plot plan drawn to scale completely dimensioned, showing lot lines and structures, direction and approximate slope of surface, location of all present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas and structures on the plot, number of bedrooms and plumbing fixtures in each structure, location of private sewage disposal system and 100% expansion area or building sewer connecting to the public sewer, and location of the proposed graywater system.
- (b) Details of construction necessary to assure compliance with the requirements of this appendix, together with a full description of the complete installation, including installation methods, construction and materials as required by the Administrative Authority.
- (c) A log of soil formations and groundwater level as determined by test holes dug in close proximity to any proposed irrigation area, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests.

Exception: The Administrative Authority may allow the use of Table G-2 in lieu of percolation tests.

G 5 Inspection and Testing**(a) Inspection**

- (1) All applicable provisions of this Appendix and of Section 103.5 of this Code shall be complied with.
- (2) System components shall be properly identified as to manufacturer.
- (3) Holding tanks shall be installed on dry, level, well-compacted soil, if underground, or on a level, three (3) inch (76.2 mm) concrete slab, if above ground.
- (4) Holding tanks shall be anchored against overturning.
- (5) If a design is predicated on soil tests, the irrigation/disposal field shall be installed at the same location and depth as the tested area.
- (6) Installation shall conform with the equipment and installation methods identified in the approved plans.

(b) Testing

(1) Holding tanks shall be filled with water to the overflow line prior to and during inspection. All seams and joints shall be left exposed and the tank shall remain watertight.

(2) A flow test shall be performed through the system to the point of graywater irrigation/disposal. All lines and components shall be watertight.

G 6 Procedure for Estimating Graywater Discharge

(a) The number of occupants of each dwelling unit shall be calculated as follows:

First bedroom	2 occupants
Each additional bedroom	1 occupant

(b) The estimated graywater flows for each occupant shall be calculated as follows:

Showers, bathtubs, and wash basins	25 GPD (95 LPD)/occupant
Laundry	15 GPD (57 LPD)/occupant

(c) The total number of occupants shall be multiplied by the applicable estimated graywater discharge as provided above, and the type of fixtures connected to the graywater system.

Example 1:

Single family dwelling, 3 bedrooms with showers, bathtubs, wash basins and laundry facilities all connected to the graywater system:

Total number of occupants = $2 + 1 + 1 = 4$

Estimated graywater flow = $4 \times (25 + 15) = 160$ GPD

(metric) = $4 \times (95 + 57) = 608$ LPD

Example 2:

Single family dwelling, 4 bedrooms with only the clotheswasher connected to the graywater system:

Total number of occupants = $2 + 1 + 1 + 1 = 5$

Estimated graywater flow = $5 \times 15 = 75$ GPD

(metric) = $5 \times 57 = 285$ LPD

G 7 Required Area of Subsurface Irrigation/Disposal Fields (See Figure G-5.)

Each valved zone shall have a minimum effective irrigation area in square feet as determined by Table G-2 for the type of soil found in the excavation, based upon a calculation of estimated graywater discharge pursuant to Section G 6 of this appendix, or the size of the holding tank, whichever is larger. The area of the irrigation/disposal field shall be equal to the aggregate length of the perforated pipe sections within the valved zone times the width of the proposed irrigation/disposal field. Each proposed graywater system shall include at least three (3) valved zones and each zone shall be in compliance with the provisions of the section. No excavation for an irrigation/disposal field shall extend within five (5) vertical feet of highest known seasonal groundwater, nor to a depth where graywater may contaminate the groundwater or ocean water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Administrative Authority.

G 8 Determination of Maximum Absorption Capacity

- (a) Wherever practicable, irrigation/disposal field size shall be computed from Table G-2.
- (b) In order to determine the absorption quantities of questionable soils other than those listed in Table G-2, the proposed site may be subjected to percolation tests acceptable to the Administrative Authority.
- (c) When a percolation test is required, no graywater system shall be permitted if the test shows the absorption capacity of the soil is less than eighty-three hundredths (0.83) gallons per square foot (33.8 L/m²) or more than five and twelve hundredths (5.12) gallons per square foot (208.5 L/m²) of leaching area per twenty-four (24) hours.

G 9 Holding Tank Construction (See Figures G-1, G-2, G-3 and G-4.)

- (a) Plans for all holding tanks shall be submitted to the Administrative Authority for approval. Such plans shall show all dimensions, structural calculations, bracings, and such other pertinent data as may be required. A minimum capacity of fifty (50) gallons (189 L) is required.
- (b) Holding tanks shall be constructed of solid durable materials, not subject to excessive corrosion or decay, and shall be watertight.
- (c) Each holding tank shall be vented as required by Chapter 9 of this Code and shall have a locking, gasketed access opening, or approved equivalent, to allow for inspection and cleaning.
- (d) Each holding tank shall have its rated capacity permanently marked on the unit. In addition, a sign "GRAYWATER IRRIGATION SYSTEM, DANGER — UNSAFE WATER" shall be permanently marked on the holding tank.
- (e) Each holding tank installed above ground shall have an emergency drain, separate from that connecting the tank with the irrigation/disposal fields, and an overflow drain. The emergency and overflow drains shall have permanent connections to the building drain or building sewer, upstream of septic tanks, if any. The overflow drain shall not be equipped with a shutoff valve.
- (f) The overflow and emergency drain pipes shall not be less in size than the inlet pipe. The vent size shall be determined based on the total graywater fixture units, as outlined in Table 7-5 of this Code. Unions or equally effective fittings shall be provided for all piping connected to the holding tank.
- (g) Each holding tank shall be structurally designed to withstand all anticipated earth or other loads. All holding tank covers shall be capable of supporting an earth load of not less than three hundred (300) pounds per square foot (1464.6 kg/m²) when the tank is designed for underground installation.

(h) If a holding tank is installed underground, the system must be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve.

(i) **Materials**

(1) Holding tanks shall be steel, protected from corrosion, both externally and internally, by an approved coating or by other acceptable means, shall meet nationally recognized standards for the intended use, and shall be approved by the Administrative Authority.

(2) Holding tanks constructed of alternate material may be approved by the Administrative Authority, provided they comply with approved applicable standards.

G 10 Valves and Piping (See Figures G-1, G-2, G-3 and G-4.)

Graywater piping discharging into the holding tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved waterseal type trap(s). If no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from any possible waste or sewer gasses. All graywater piping shall be marked or shall have a continuous tape marked with the words "DANGER — UNSAFE WATER." All valves, including the three-way valve, shall be readily accessible and shall be approved by the Administrative Authority. A backwater valve, installed pursuant to this Code, shall be provided on all holding tank drain connections to the sanitary drain or sewer piping.

G 11 Irrigation/Disposal Field Construction (See Figure G-5.)

(a) Perforated sections shall be a minimum three (3) inch (76.2 mm) diameter and shall be constructed of perforated high density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, or other approved materials, provided that sufficient openings are available for distribution of the graywater into the trench area. Material, construction, and perforation of the pipe shall be in compliance with the appropriate absorption fields drainage piping standards and shall be approved by the Administrative Authority.

(b) Filter material, clean stone, gravel, slag, or similar filter material acceptable to the Administrative Authority, varying in size from three-quarter (3/4) inch (19.1 mm) to two and one-half (2-1/2) inch (63.5 mm) shall be placed in the trench to the depth and grade required by this section. The perforated section shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth required by this section. The filter material shall then be covered with untreated building paper, straw, or similar porous material to prevent closure of voids with earth backfill. No earth backfill shall be placed over the filter material cover until after inspection and acceptance.

(c) Irrigation/disposal fields shall be constructed as follows:

	Minimum	Maximum
Number of drain lines per valved zone	1	—
Length of each perforated line	—	100 ft. (30.4 m)
Bottom width of trench	12 in. (0.3 m)	18 in. (0.4 m)
Spacing of lines, center-to-center	4 ft. (1.2 m)	—
Depth of earth cover of lines	10 in. (254 mm)	—
Depth of filter material cover of lines	2 in. (50 mm)	—
Depth of filter material beneath lines	3 in. (72 mm)	—
Grade of perforated lines	level	3 in./100 ft. 2 mm/m

(d) When necessary on sloping ground to prevent excessive line slopes, irrigation/disposal lines shall be stepped. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on natural or unfilled ground.

G 12 Special Provisions

(a) Other collection and distribution systems may be approved by the local Administrative Authority, as allowed by Section 301.0 of this Code.

(b) Nothing contained in this appendix shall be construed to prevent the Administrative Authority from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

TABLE G-1
Location of Graywater System

Minimum Horizontal Distance in Clear Required From:	Holding Tank		Irrigation/ Disposal Field	
	Feet	(m)	Feet	(m)
Building Structures ¹	5 ²	(1.5)	2 ³	(0.6)
Property line adjoining private property	5	(1.5)	5	(1.5)
Water supply wells ⁴	50	(15.2)	100	(30.4)
Streams and lakes ⁴	50	(15.2)	50 ⁵	(15.2)
Sewage pits or cesspools	5	(1.5)	5	(1.5)
Disposal field and 100% expansion area	5	(1.5)	4 ⁶	(1.2)
Septic tank	0	(0)	5	(1.5)
On-site domestic water service line	5	(1.5)	5	(1.5)
Pressurized public water main	10	(3.0)	10 ⁷	(3.0)

Notes: When irrigation/disposal fields are installed in sloping ground, the minimum horizontal distance between any part of the distribution system and the ground surface shall be fifteen (15) feet (4.6 m).

¹ Including porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways and similar structures or appurtenances.

² The distance may be reduced to zero feet for above ground tanks when first approved by the Administrative Authority.

- ³ Assumes a 45 degree angle from foundation.
- ⁴ Where special hazards are involved, the distance required shall be increased as may be directed by the Administrative Authority.
- ⁵ These minimum clear horizontal distances shall also apply between the irrigation/disposal field and the ocean mean higher high tide line.
- ⁶ Plus two (2) feet (0.6 m) for each additional foot of depth in excess of one (1) foot (0.3 m) below the bottom of the drain line.
- ⁷ For parallel construction/for crossings, approval by the Administrative Authority shall be required.

TABLE G-2
Design Criteria of Six Typical Soils

Type of Soil	Minimum square feet of irrigation/leaching area per 100 gallons of estimated graywater discharge per day	Maximum absorption capacity in gallons per square foot of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	20	5.0
Fine sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

TABLE G-2 (Metric)
Design Criteria of Six Typical Soils

Type of Soil	Minimum square meters of irrigation/leaching area per liter of estimated graywater discharge per day	Maximum absorption capacity in liters per square meter of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	0.005	203.7
Fine sand	0.006	162.9
Sandy loam	0.010	101.8
Sandy clay	0.015	69.2
Clay with considerable sand or gravel	0.022	44.8
Clay with small amounts of sand or gravel	0.030	32.6

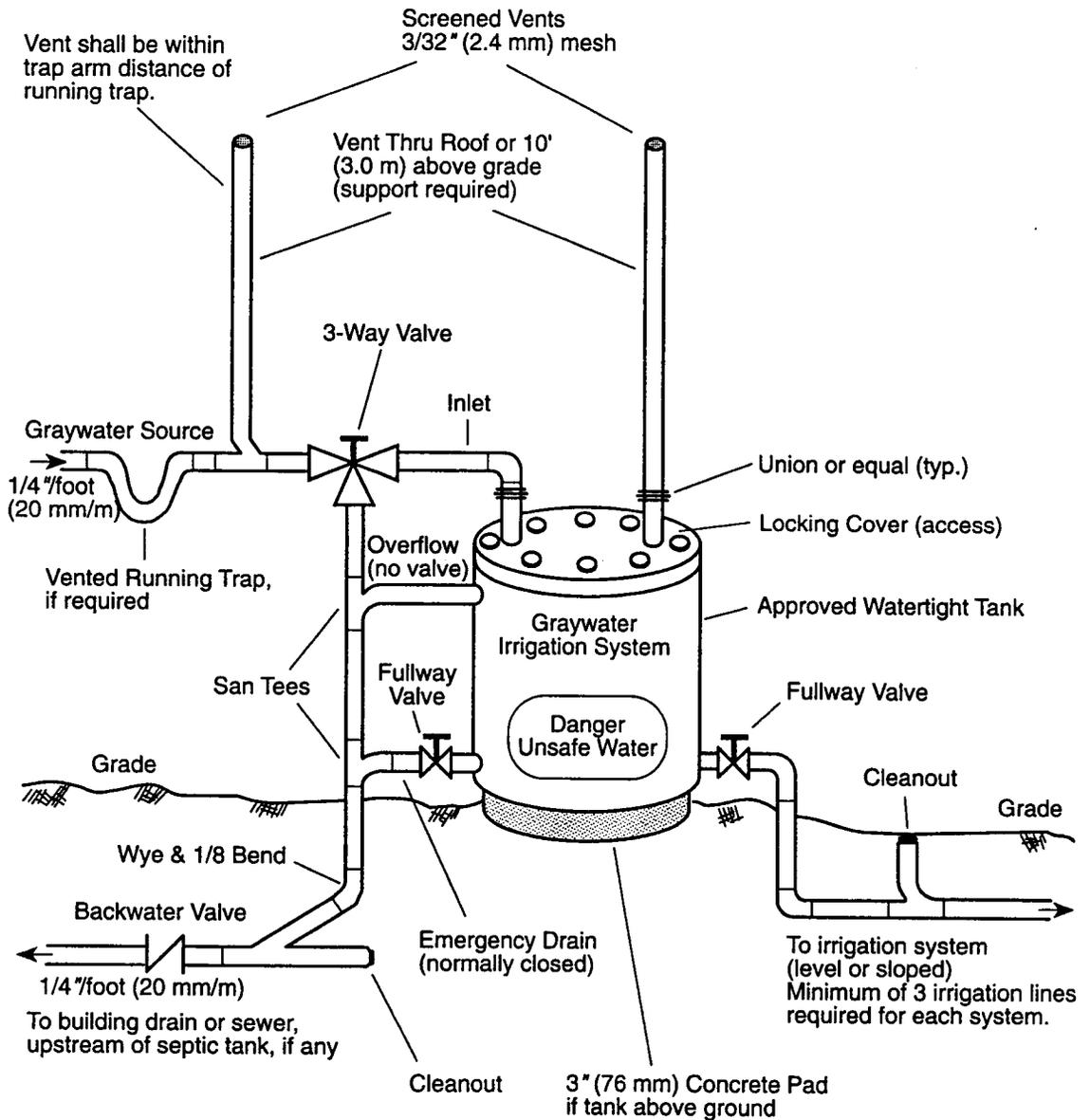


Figure G-1
Graywater System Tank – Gravity

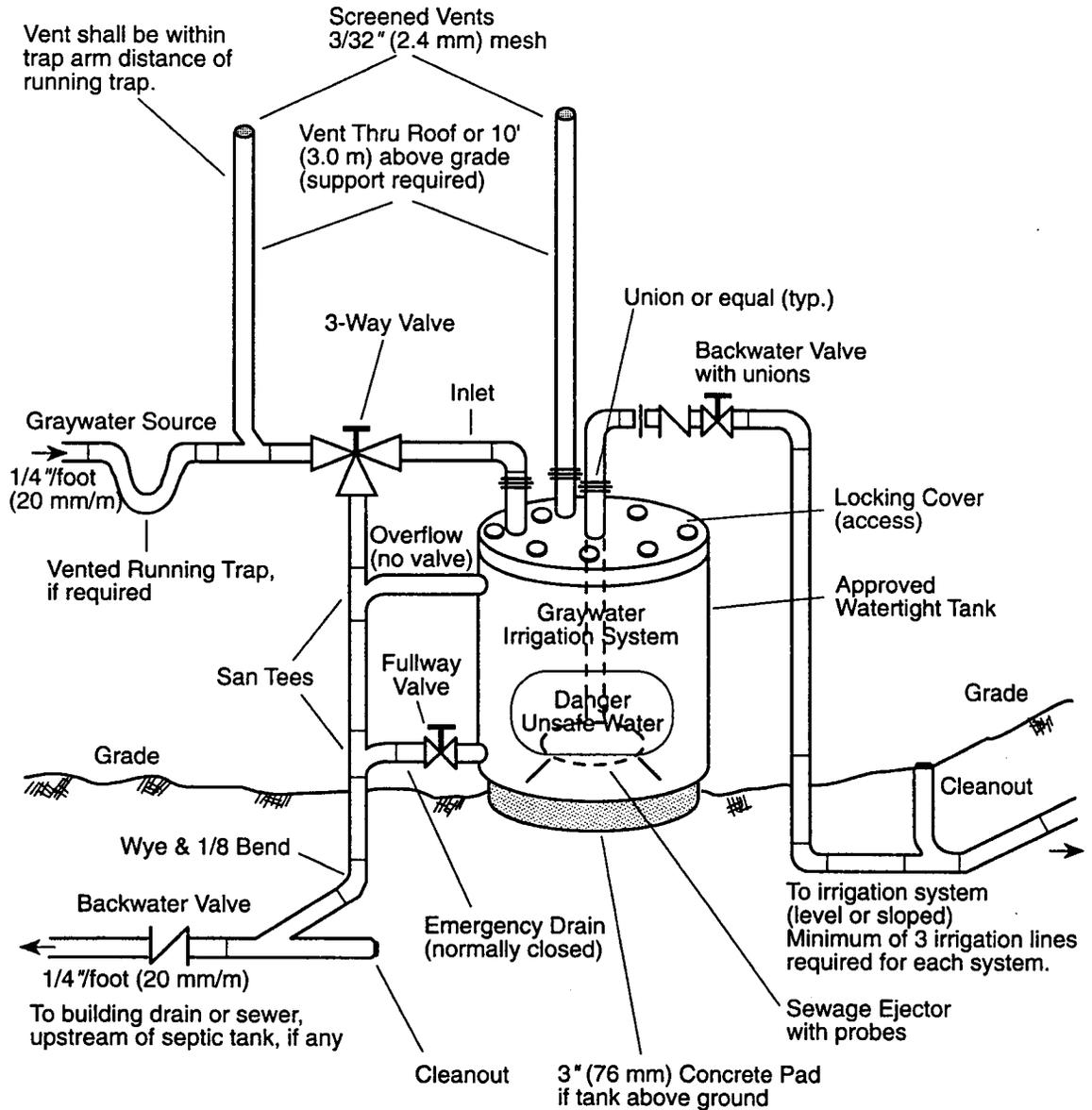


Figure G-2
 Graywater System Tank – Pumped

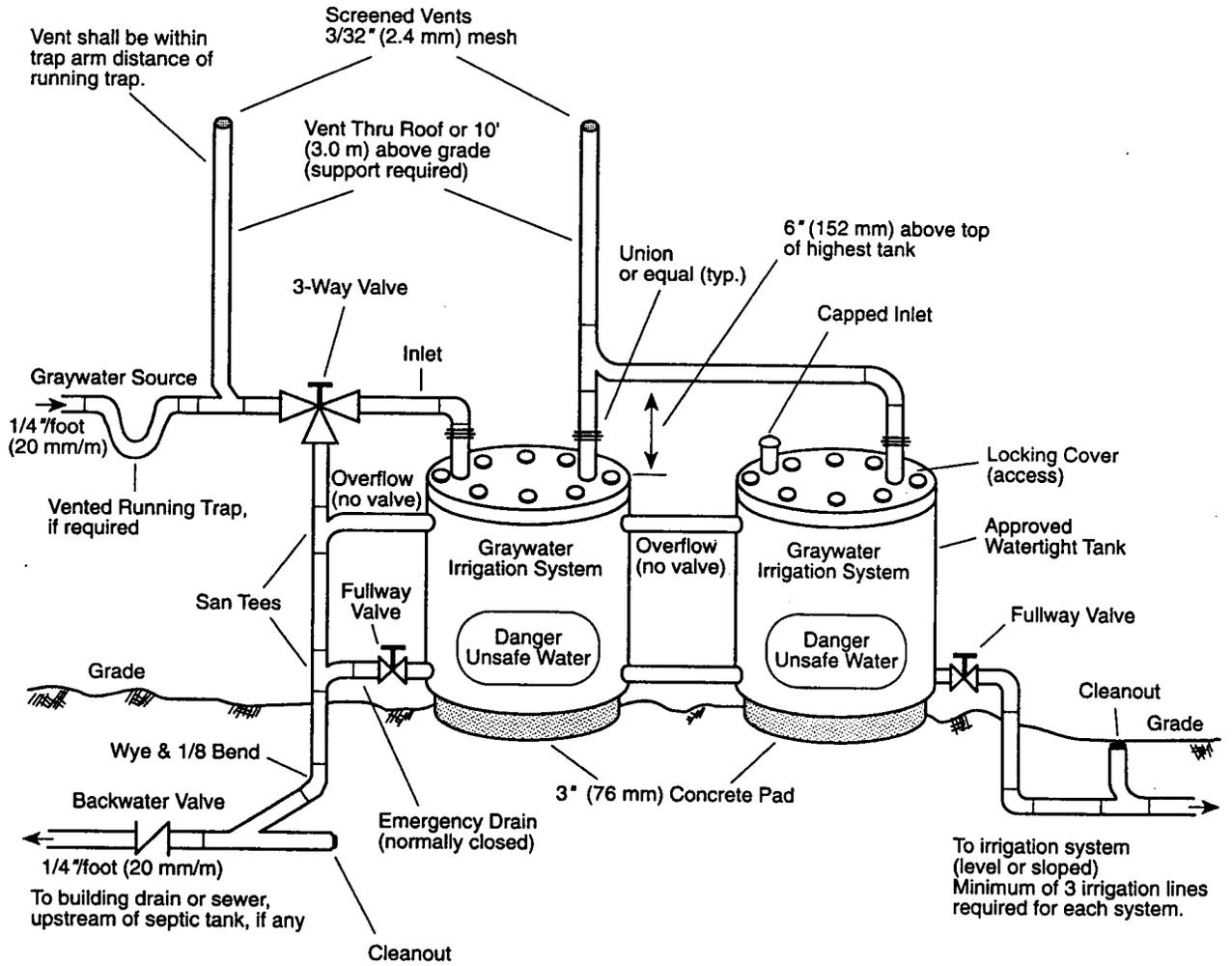


Figure G-3
Graywater System Multiple Tank Installation

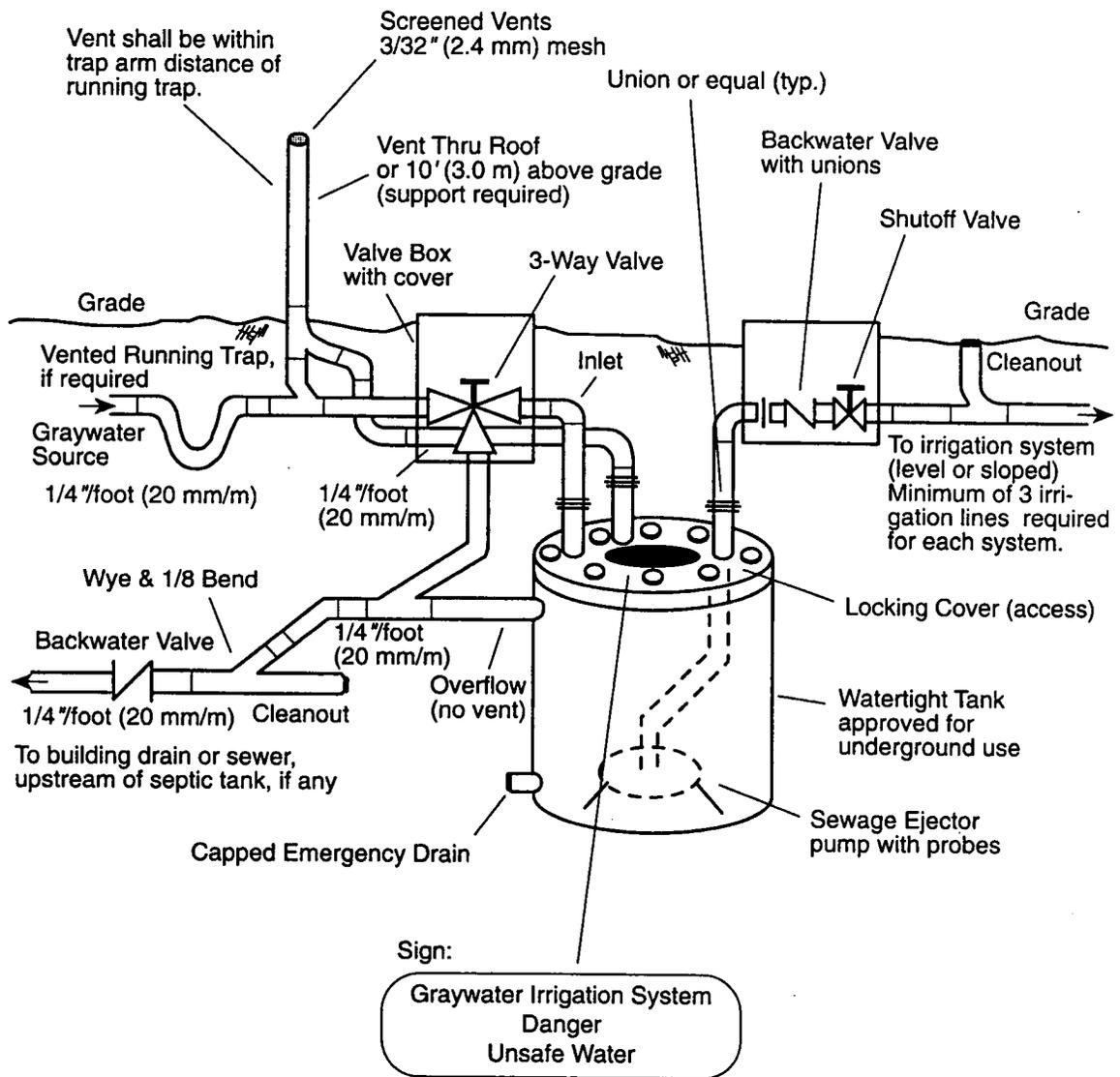
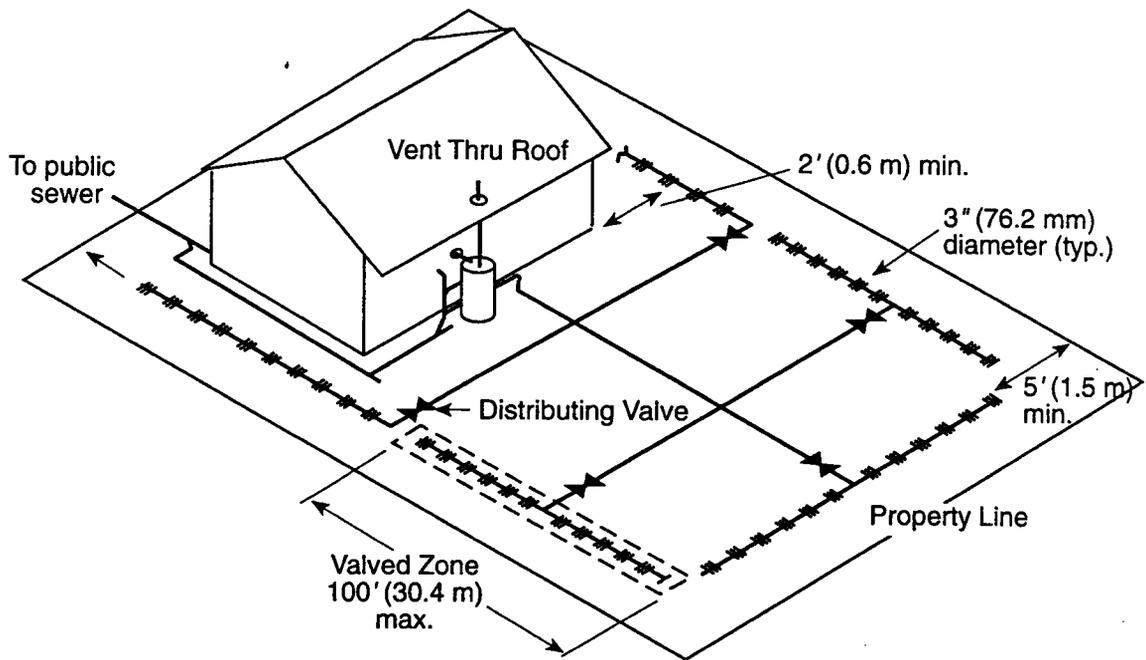


Figure G-4
 Graywater System Underground Tank – Pumped



Note: Each valved zone shall have a minimum effective absorption/irrigation area in square feet predicated on the estimated graywater discharge in gallons per day and on the type of soil found in the area. The area of the field shall be equal to the aggregate length of perforated pipe sections within the valved zone times the width of the proposed field.

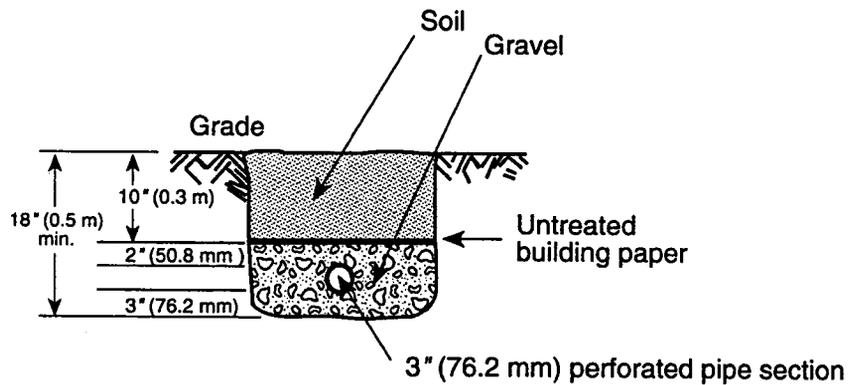


Figure G-5
Graywater System Typical Irrigation Layout

UNIFORM PLUMBING CODE™



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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS
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APPENDIX G

GRAYWATER SYSTEMS FOR SINGLE FAMILY DWELLINGS

G 1 Graywater Systems – General

(a) The provisions of this appendix shall apply to the construction, alteration, and repair of graywater systems for underground landscape irrigation. Installations shall be allowed only in single family dwellings. The system shall have no connection to any potable water system and shall not result in any surfacing of the graywater. Except as otherwise provided for in this appendix, the provisions of this Code shall be applicable to graywater installation.

(b) The type of system shall be determined on the basis of location, soil type, and groundwater level, and shall be designed to accept all graywater connected to the system from the residential building. The system, except as otherwise approved, shall consist of a holding tank or tanks which discharge into subsurface irrigation/disposal fields.

(c) No graywater system, or part thereof, shall be located on any lot other than the lot which is the site of the building or structure which discharges the graywater; nor shall any graywater system or part thereof be located at any point having less than the minimum distances indicated in Table G-1.

(d) No permit for any graywater system shall be issued until a plot plan with appropriate data satisfactory to the Administrative Authority has been submitted and approved. When there is insufficient lot area or inappropriate soil conditions for adequate absorption of the graywater, as determined by the Administrative Authority, no graywater system shall be permitted.

(e) No permit shall be issued for a graywater system on any property in a geologically sensitive area, as determined by the Administrative Authority.

(f) Private sewage disposal systems existing or to be constructed on the premises shall comply with Appendix K of this Code. In addition, appropriate clearances from the graywater systems shall be maintained as provided in Table G-1. The capacity of the private sewage disposal system, including required future areas, shall not be decreased or otherwise affected by the existence or proposed installation of a graywater system servicing the premises.

G 2 Definition

Graywater is untreated household waste water which has not come into contact with toilet waste. Graywater includes used water from bathtubs,

showers, bathroom wash basins, and water from clotheswashing machines and laundry tubs. It shall not include waste water from kitchen sinks or dishwashers.

G 3 Permit

It shall be unlawful for any person to construct, install, or alter, or cause to be constructed, installed, or altered any graywater system in a building or on a premises without first obtaining a permit to do such work from the Administrative Authority.

G 4 Drawings and Specifications

The Administrative Authority may require any or all of the following information to be included with or in the plot plan before a permit is issued for a graywater system or at any time during the construction thereof:

(a) Plot plan drawn to scale completely dimensioned, showing lot lines and structures, direction and approximate slope of surface, location of all present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas and structures on the plot, number of bedrooms and plumbing fixtures in each structure, location of private sewage disposal system and 100% expansion area or building sewer connecting to the public sewer, and location of the proposed graywater system.

(b) Details of construction necessary to assure compliance with the requirements of this appendix, together with a full description of the complete installation, including installation methods, construction and materials as required by the Administrative Authority.

(c) A log of soil formations and groundwater level as determined by test holes dug in close proximity to any proposed irrigation area, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests.

Exception: The Administrative Authority may allow the use of Table G-2 in lieu of percolation tests.

G 5 Inspection and Testing

(a) Inspection

(1) All applicable provisions of this Appendix

and of Section 103.5 of this Code shall be complied with.

(2) System components shall be properly identified as to manufacturer.

(3) Holding tanks shall be installed on dry, level, well-compacted soil, if underground, or on a level, three (3) inch (76 mm), concrete slab, if above ground.

(4) Holding tanks shall be anchored against overturning.

(5) If a design is predicated on soil tests, the irrigation/disposal field shall be installed at the same location and depth as the tested area.

(6) Installation shall conform with the equipment and installation methods identified in the approved plans.

(b) Testing

(1) Holding tanks shall be filled with water to the overflow line prior to and during inspection. All seams and joints shall be left exposed and the tank shall remain watertight.

(2) A flow test shall be performed through the system to the point of graywater irrigation/disposal. All lines and components shall be watertight.

G 6 Procedure for Estimating Graywater Discharge

(a) The number of occupants of each dwelling unit shall be calculated as follows:

First bedroom occupants	2
Each additional bedroom occupant	1

(b) The estimated graywater flows for each occupant shall be calculated as follows:

Showers, bathtubs, and wash basins	25 GPD (95 LPD)/occupant
Laundry	15 GPD (57 LPD)/occupant

(c) The total number of occupants shall be multiplied by the applicable estimated graywater discharge as provided above, and the type of fixtures connected to the graywater system.

Example 1:

Single family dwelling, 3 bedrooms with showers, bathtubs, wash basins and laundry facilities all connected to the graywater system:

Total number of occupants = 2 + 1 + 1 = 4

Estimated graywater flow = 4 x (25 + 15) = 160 GPD
(metric) = 4 x (95 + 57) = 608 LPD

Example 2:

Single family dwelling, 4 bedrooms with only the clotheswasher connected to the graywater system:

Total number of occupants = 2 + 1 + 1 + 1 = 5

Estimated graywater flow = 5 x 15 = 75 GPD

(metric) = 5 x 57 = 285 LPD

G7 Required Area of Subsurface Irrigation/Disposal Fields (See Figure G-5.)

Each valved zone shall have a minimum effective irrigation area in square feet as determined by Table G-2 for the type of soil found in the excavation, based upon a calculation of estimated graywater discharge pursuant to Section G 6 of this appendix, or the size of the holding tank, whichever is larger. The area of the irrigation/disposal field shall be equal to the aggregate length of the perforated pipe sections within the valved zone times the width of the proposed irrigation/disposal field. Each proposed graywater system shall include at least three (3) valved zones and each zone shall be in compliance with the provisions of the section. No excavation for an irrigation/disposal field shall extend within five (5) vertical feet of highest known seasonal groundwater, nor to a depth where graywater may contaminate the groundwater or ocean water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Administrative Authority.

G 8 Determination of Maximum Absorption Capacity

(a) Wherever practicable, irrigation/disposal field size shall be computed from Table G-2.

(b) In order to determine the absorption quantities of questionable soils other than those listed in Table G-2, the proposed site may be subjected to percolation tests acceptable to the Administrative Authority.

(c) When a percolation test is required, no graywater system shall be permitted if the test shows the absorption capacity of the soil is less than eighty-three hundredths (0.83) gallons per square foot (33.8 L/m²) or more than five and twelve hundredths (5.12) gallons per square foot (208.5 L/m²) of leaching area per twenty-four (24) hours.

G 9 Holding Tank Construction (See Figures G-1, G-2, G-3 and G-4.)

(a) Plans for all holding tanks shall be submitted to

the Administrative Authority for approval. Such plans shall show all dimensions, structural calculations, bracings, and such other pertinent data as may be required. A minimum capacity of fifty (50) gallons (189 L) is required.

(b) Holding tanks shall be constructed of solid durable materials, not subject to excessive corrosion or decay, and shall be watertight.

(c) Each holding tank shall be vented as required by Chapter 9 of this Code and shall have a locking, gasketed access opening, or approved equivalent, to allow for inspection and cleaning.

(d) Each holding tank shall have its rated capacity permanently marked on the unit. In addition, a sign "GRAYWATER IRRIGATION SYSTEM, DANGER — UNSAFE WATER" shall be permanently marked on the holding tank.

(e) Each holding tank installed above ground shall have an emergency drain, separate from that connecting the tank with the irrigation/disposal fields, and an overflow drain. The emergency and overflow drains shall have permanent connections to the building drain or building sewer, upstream of septic tanks, if any. The overflow drain shall not be equipped with a shutoff valve.

(f) The overflow and emergency drain pipes shall not be less in size than the inlet pipe. The vent size shall be determined based on the total graywater fixture units, as outlined in Table 7-5 of this Code. Unions or equally effective fittings shall be provided for all piping connected to the holding tank.

(g) Each holding tank shall be structurally designed to withstand all anticipated earth or other loads. All holding tank covers shall be capable of supporting an earth load of not less than three hundred (300) pounds per square foot (1464.6 kg/m²) when the tank is designed for underground installation.

(h) If a holding tank is installed underground, the system must be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve.

(i) **Materials**

(1) Holding tanks shall be steel, protected from corrosion, both externally and internally, by an approved coating or by other acceptable means, shall meet nationally recognized standards for the intended use, and shall be approved by the Administrative Authority.

(2) Holding tanks constructed of alternate material may be approved by the Administrative Authority, provided they comply with approved applicable standards.

G 10 Valves and Piping (See Figures G-1, G-2, G-3 and G-4.)

Graywater piping discharging into the holding tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved waterseal type trap(s). If no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from any possible waste or sewer gasses. All graywater piping shall be marked or shall have a continuous tape marked with the words "DANGER — UNSAFE WATER." All valves, including the three-way valve, shall be readily accessible and shall be approved by the Administrative Authority. A backwater valve, installed pursuant to this Code, shall be provided on all holding tank drain connections to the sanitary drain or sewer piping.

G 11 Irrigation/Disposal Field Construction (See Figure G-5.)

(a) Perforated sections shall be a minimum three (3) inch (76 mm) diameter and shall be constructed of perforated high density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, or other approved materials, provided that sufficient openings are available for distribution of the graywater into the trench area. Material, construction, and perforation of the pipe shall be in compliance with the appropriate absorption fields drainage piping standards and shall be approved by the Administrative Authority.

(b) Filter material, clean stone, gravel, slag, or similar filter material acceptable to the Administrative Authority, varying in size from three-quarter (3/4) inch (19.1 mm) to two and one-half (2-1/2) inch (64 mm) shall be placed in the trench to the depth and grade required by this section. The perforated section shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth required by this section. The filter material shall then be covered with untreated building paper, straw, or similar porous material to prevent closure of voids with earth backfill. No earth backfill shall be placed over the filter material cover until after inspection and acceptance.

(c) Irrigation/disposal fields shall be constructed as follows:

	Minimum	Maximum
Number of drain lines per valved zone	1	—
Length of each perforated line	—	100 ft. (30840 m m)
Bottom width of trench	12 in. (305 mm)	18 in. (457 m m)
Spacing of lines, center-to-center	4 ft. (1219 mm)	—
Depth of earth cover of lines	10 in. (254 mm)	—
Depth of filter material cover of lines	2 in. (51 mm)	—
Depth of filter material beneath lines	3 in. (76 mm)	—
Grade of perforated lines	level	3 in./100 ft. 2 mm/m

(d) When necessary on sloping ground to prevent excessive line slopes, irrigation/disposal lines shall be stepped. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on natural or unfilled ground.

be approved by the local Administrative Authority, as allowed by Section 301.0 of this Code.

(b) Nothing contained in this appendix shall be construed to prevent the Administrative Authority from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

G 12 Special Provisions

(a) Other collection and distribution systems may

TABLE G-1
Location of Graywater System

Minimum Horizontal Distance in Clear Required From:	Holding Tank		Irrigation/ Disposal Field	
	Feet	(mm)	Feet	(mm)
Building Structures ¹	5 ²	(1524 mm)	2 ³	(610 mm)
Property line adjoining private property	5	(1524 mm)	5	(1524 mm)
Water supply wells ⁴	50	(15240 mm)	100	(30480 mm)
Streams and lakes ⁴	50	(15240 mm)	50 ⁵	(15240 mm)
Sewage pits or cesspools	5	(1524 mm)	5	(1524 mm)
Disposal field and 100% expansion area	5	(1524 mm)	4 ⁶	(1219 mm)
Septic tank	0	(0)	5	(1524 mm)
On-site domestic water service line	5	(1524 mm)	5	(1524 mm)
Pressurized public water main	10	(3048 mm)	10 ⁷	(3048 mm)

Notes: When irrigation/disposal fields are installed in sloping ground, the minimum horizontal distance between any part of the distribution system and the ground surface shall be fifteen (15) feet (4572 mm).

¹ Including porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways and similar structures or appurtenances.

² The distance may be reduced to zero feet for above ground tanks when first approved by the Administrative Authority.

³ Assumes a 45 degree (0.79 rad) angle from foundation.

⁴ Where special hazards are involved, the distance required shall be increased as may be directed by the Administrative Authority.

⁵ These minimum clear horizontal distances shall also apply between the irrigation/disposal field and the ocean mean higher high tide line.

⁶ Plus two (2) feet (610 mm) for each additional foot of depth in excess of one (1) foot (305 mm) below the bottom of the drain line.

⁷ For parallel construction/for crossings, approval by the Administrative Authority shall be required.

TABLE G-2
Design Criteria of Six Typical Soils

Type of Soil	Minimum square feet of irrigation/leaching area per 100 gallons of estimated graywater discharge per day	Maximum absorption capacity in gallons per square foot of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	20	5.0
Fine sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

TABLE G-2 (Metric)
Design Criteria of Six Typical Soils

Type of Soil	Minimum square meters of irrigation/leaching area per liter of estimated graywater discharge per day	Maximum absorption capacity in liters per square meter of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	0.005	203.7
Fine sand	0.006	162.9
Sandy loam	0.010	101.8
Sandy clay	0.015	69.2
Clay with considerable sand or gravel	0.022	44.8
Clay with small amounts of sand or gravel	0.030	32.6

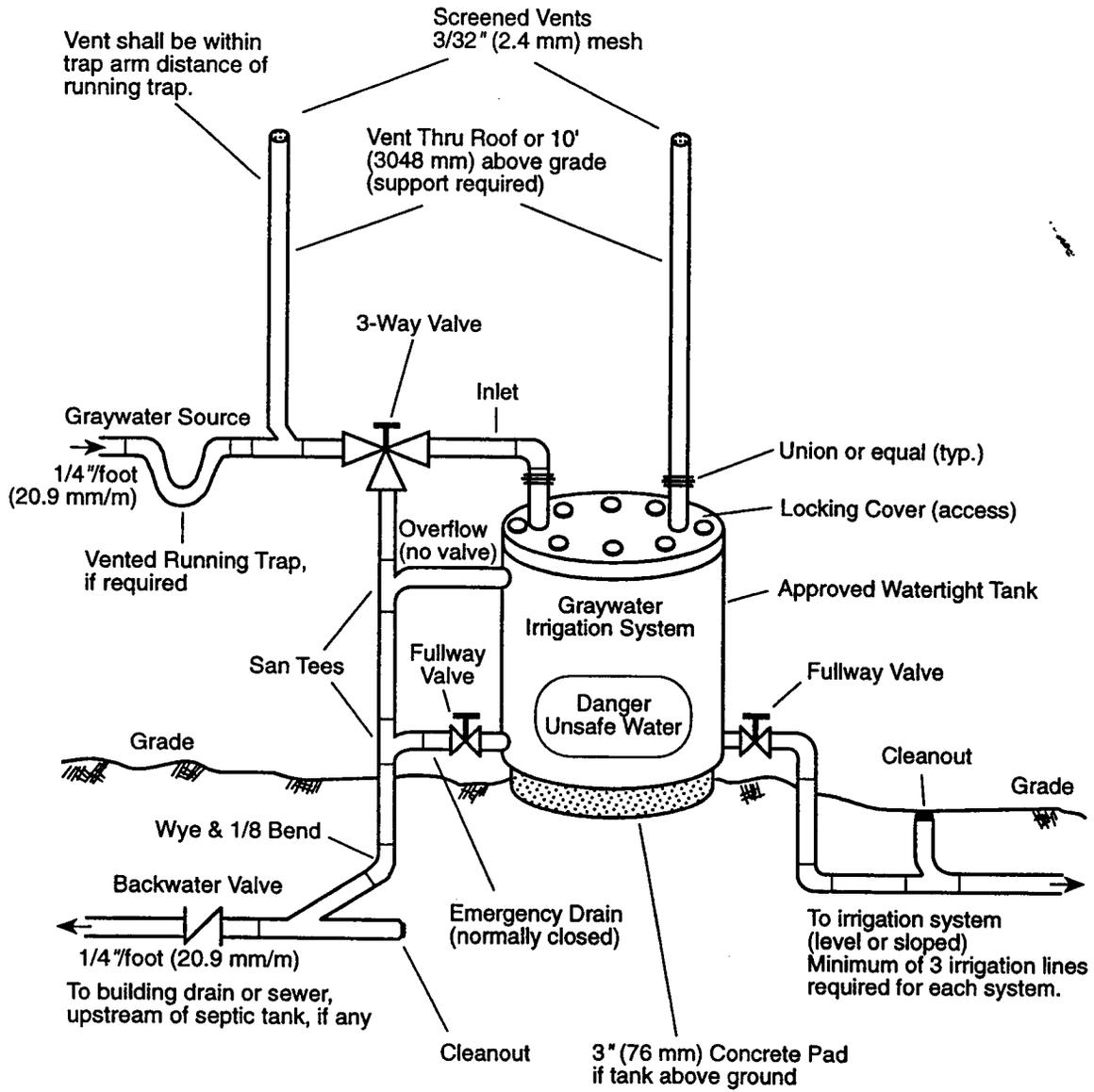


Figure G-1
Graywater System Tank – Gravity

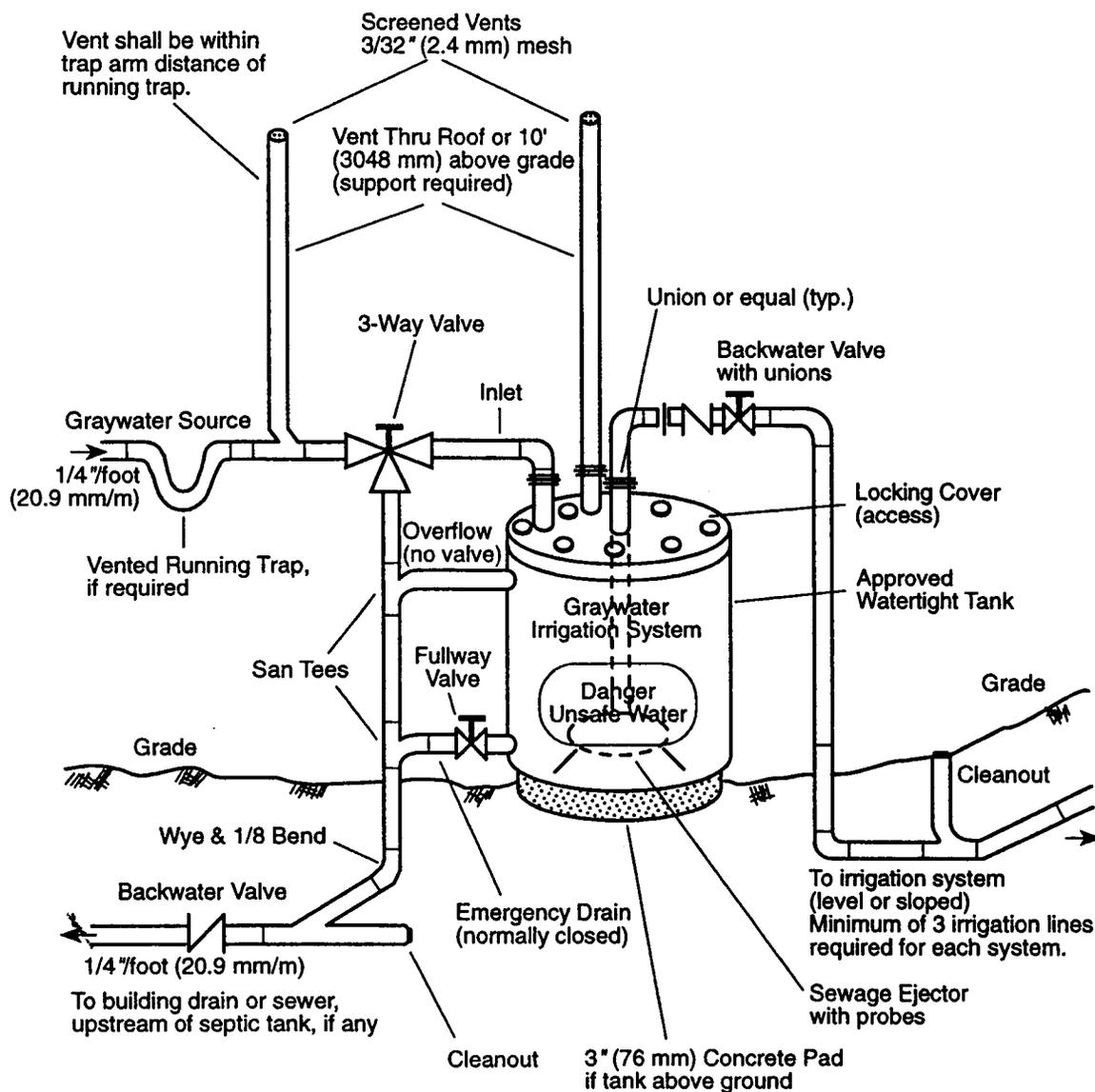


Figure G-2
 Graywater System Tank – Pumped

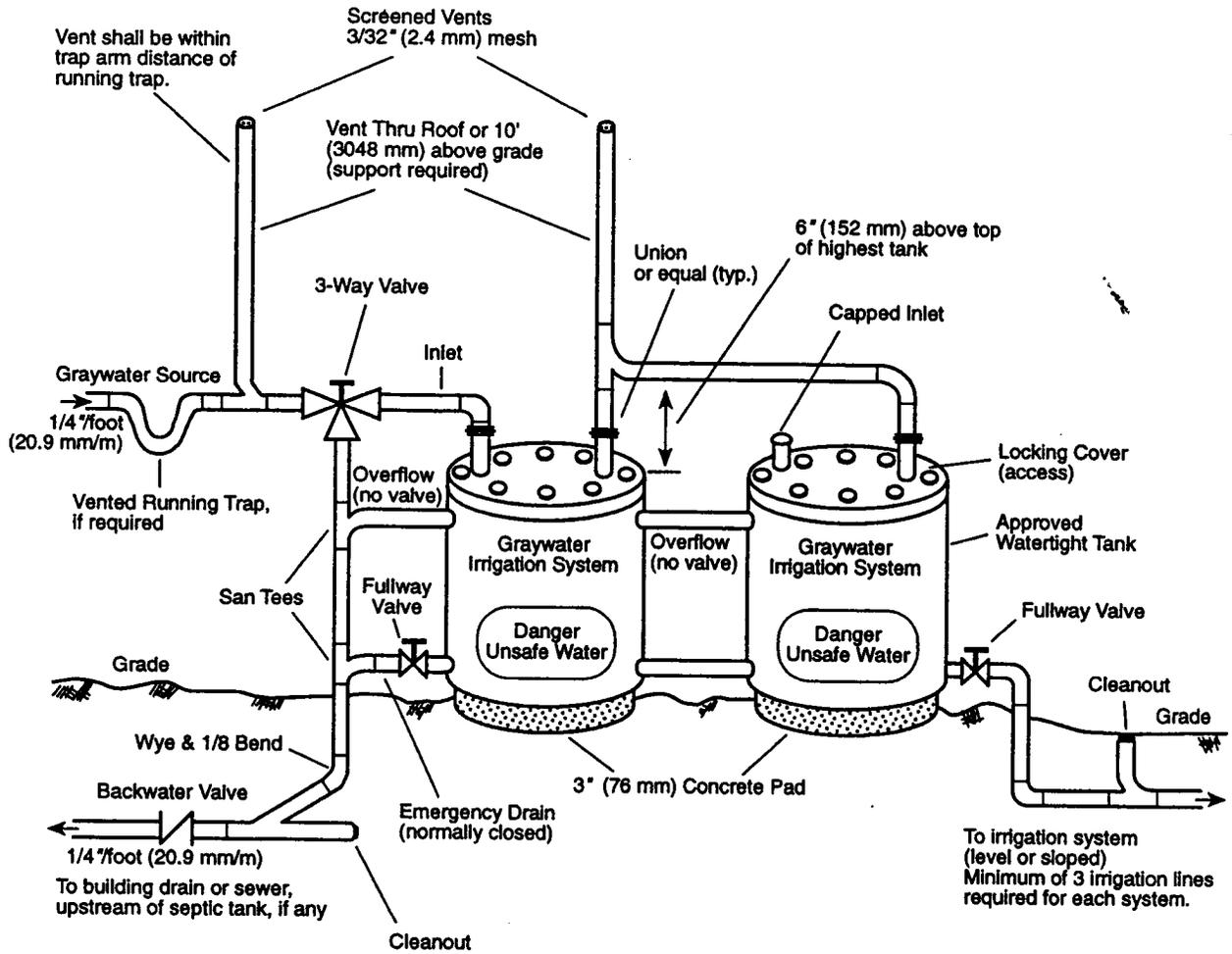


Figure G-3
Graywater System Multiple Tank Installation

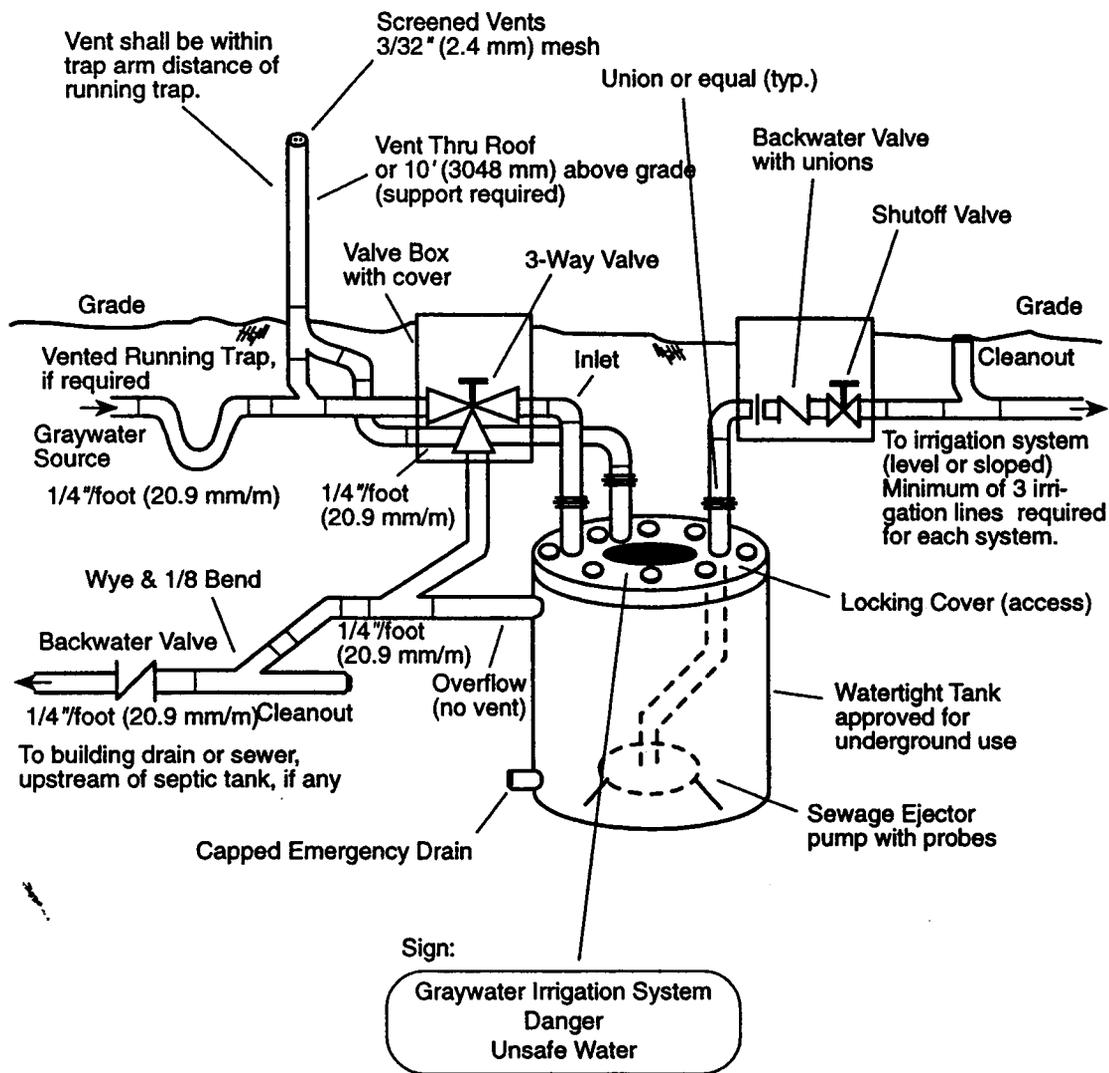
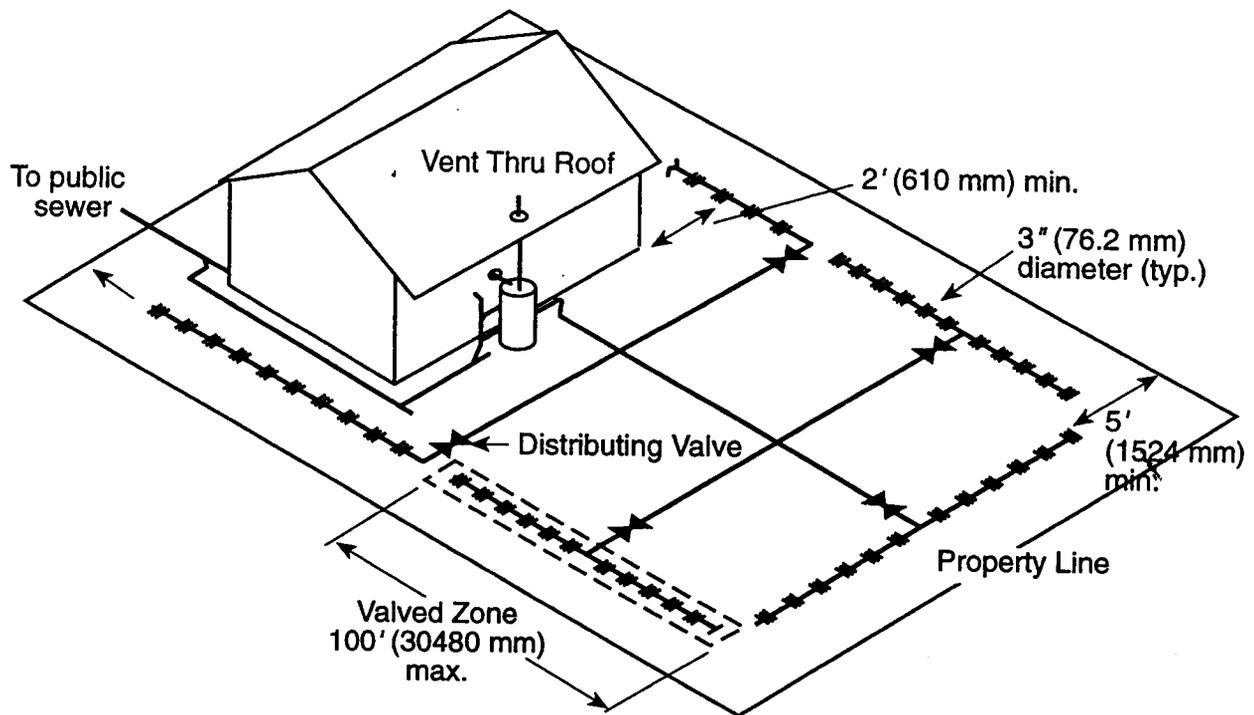


Figure G-4
 Graywater System Underground Tank – Pumped



Note: Each valved zone shall have a minimum effective absorption/irrigation area in square feet predicated on the estimated graywater discharge in gallons per day and on the type of soil found in the area. The area of the field shall be equal to the aggregate length of perforated pipe sections within the valved zone times the width of the proposed field.

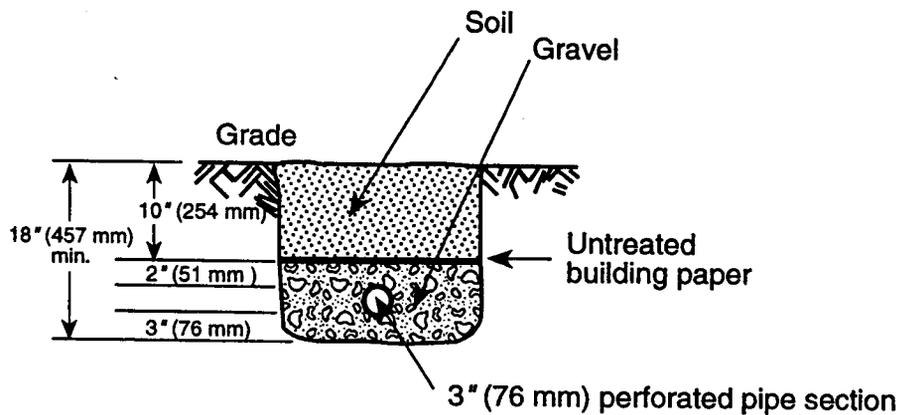
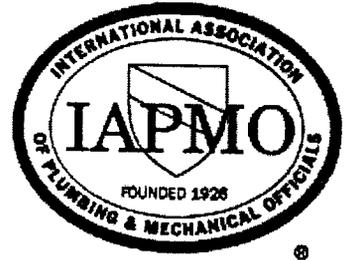


Figure G-5
Graywater System Typical Irrigation Layout

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Adopted at the Seventieth Annual Conference
September, 1999

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APPENDIX G

GRAYWATER SYSTEMS FOR SINGLE FAMILY DWELLINGS

G 1 Graywater Systems – General

(a) The provisions of this appendix shall apply to the construction, alteration, and repair of graywater systems for underground landscape irrigation. Installations shall be allowed only in single family dwellings. The system shall have no connection to any potable water system and shall not result in any surfacing of the graywater. Except as otherwise provided for in this appendix, the provisions of this Code shall be applicable to graywater installation.

(b) The type of system shall be determined on the basis of location, soil type, and groundwater level, and shall be designed to accept all graywater connected to the system from the residential building. The system, except as otherwise approved, shall consist of a holding tank or tanks which discharge into subsurface irrigation/disposal fields.

(c) No graywater system, or part thereof, shall be located on any lot other than the lot which is the site of the building or structure which discharges the graywater; nor shall any graywater system or part thereof be located at any point having less than the minimum distances indicated in Table G-1.

(d) No permit for any graywater system shall be issued until a plot plan with appropriate data satisfactory to the Administrative Authority has been submitted and approved. When there is insufficient lot area or inappropriate soil conditions for adequate absorption of the graywater, as determined by the Administrative Authority, no graywater system shall be permitted.

(e) No permit shall be issued for a graywater system on any property in a geologically sensitive area, as determined by the Administrative Authority.

(f) Private sewage disposal systems existing or to be constructed on the premises shall comply with Appendix K of this Code. In addition, appropriate clearances from the graywater systems shall be maintained as provided in Table G-1. The capacity of the private sewage disposal system, including required future areas, shall not be decreased or otherwise affected by the existence or proposed installation of a graywater system servicing the premises.

G 2 Definition

Graywater is untreated household waste water which has not come into contact with toilet waste. Graywater includes used water from bathtubs,

showers, bathroom wash basins, and water from clotheswashing machines and laundry tubs. It shall not include waste water from kitchen sinks or dishwashers.

G 3 Permit

It shall be unlawful for any person to construct, install, or alter, or cause to be constructed, installed, or altered any graywater system in a building or on a premises without first obtaining a permit to do such work from the Administrative Authority.

G 4 Drawings and Specifications

The Administrative Authority may require any or all of the following information to be included with or in the plot plan before a permit is issued for a graywater system or at any time during the construction thereof:

(a) Plot plan drawn to scale completely dimensioned, showing lot lines and structures, direction and approximate slope of surface, location of all present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas and structures on the plot, number of bedrooms and plumbing fixtures in each structure, location of private sewage disposal system and 100% expansion area or building sewer connecting to the public sewer, and location of the proposed graywater system.

(b) Details of construction necessary to assure compliance with the requirements of this appendix, together with a full description of the complete installation, including installation methods, construction and materials as required by the Administrative Authority.

(c) A log of soil formations and groundwater level as determined by test holes dug in close proximity to any proposed irrigation area, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests.

Exception: The Administrative Authority may allow the use of Table G-2 in lieu of percolation tests.

G 5 Inspection and Testing

(a) Inspection

(1) All applicable provisions of this Appendix

and of Section 103.5 of this Code shall be complied with.

(2) System components shall be properly identified as to manufacturer.

(3) Holding tanks shall be installed on dry, level, well-compacted soil, if underground, or on a level, three (3) inch (76 mm) concrete slab, if above ground.

(4) Holding tanks shall be anchored against overturning.

(5) If a design is predicated on soil tests, the irrigation/disposal field shall be installed at the same location and depth as the tested area.

(6) Installation shall conform with the equipment and installation methods identified in the approved plans.

(b) Testing

(1) Holding tanks shall be filled with water to the overflow line prior to and during inspection. All seams and joints shall be left exposed and the tank shall remain watertight.

(2) A flow test shall be performed through the system to the point of graywater irrigation/disposal. All lines and components shall be watertight.

G 6 Procedure for Estimating Graywater Discharge

(a) The number of occupants of each dwelling unit shall be calculated as follows:

First bedroom occupants	2
Each additional bedroom occupant	1

(b) The estimated graywater flows for each occupant shall be calculated as follows:

Showers, bathtubs, and wash basins	25 GPD (95 LPD)/occupant
Laundry	15 GPD (57 LPD)/occupant

(c) The total number of occupants shall be multiplied by the applicable estimated graywater discharge as provided above, and the type of fixtures connected to the graywater system.

Example 1:

Single family dwelling, 3 bedrooms with showers, bathtubs, wash basins and laundry facilities all connected to the graywater system:

Total number of occupants = 2 + 1 + 1 = 4

Estimated graywater flow = 4 x (25 + 15) = 160 GPD
(metric) = 4 x (95 + 57) = 608 LPD

Example 2:

Single family dwelling, 4 bedrooms with only the clotheswasher connected to the graywater system:

Total number of occupants = 2 + 1 + 1 + 1 = 5

Estimated graywater flow = 5 x 15 = 75 GPD

(metric) = 5 x 57 = 285 LPD

G7 Required Area of Subsurface Irrigation/Disposal Fields (See Figure G-5.)

Each valved zone shall have a minimum effective irrigation area in square feet as determined by Table G-2 for the type of soil found in the excavation, based upon a calculation of estimated graywater discharge pursuant to Section G 6 of this appendix, or the size of the holding tank, whichever is larger. The area of the irrigation/disposal field shall be equal to the aggregate length of the perforated pipe sections within the valved zone times the width of the proposed irrigation/disposal field. Each proposed graywater system shall include at least three (3) valved zones and each zone shall be in compliance with the provisions of the section. No excavation for an irrigation/disposal field shall extend within five (5) vertical feet of highest known seasonal groundwater, nor to a depth where graywater may contaminate the groundwater or ocean water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Administrative Authority.

G 8 Determination of Maximum Absorption Capacity

(a) Wherever practicable, irrigation/disposal field size shall be computed from Table G-2.

(b) In order to determine the absorption quantities of questionable soils other than those listed in Table G-2, the proposed site may be subjected to percolation tests acceptable to the Administrative Authority.

(c) When a percolation test is required, no graywater system shall be permitted if the test shows the absorption capacity of the soil is less than eighty-three hundredths (0.83) gallons per square foot (33.8 L/m²) or more than five and twelve hundredths (5.12) gallons per square foot (208.5 L/m²) of leaching area per twenty-four (24) hours.

G 9 Holding Tank Construction (See Figures G-1, G-2, G-3 and G-4.)

(a) Plans for all holding tanks shall be submitted to

the Administrative Authority for approval. Such plans shall show all dimensions, structural calculations, bracings, and such other pertinent data as may be required. A minimum capacity of fifty (50) gallons (189 L) is required.

- (b) Holding tanks shall be constructed of solid durable materials, not subject to excessive corrosion or decay, and shall be watertight.
- (c) Each holding tank shall be vented as required by Chapter 9 of this Code and shall have a locking, gasketed access opening, or approved equivalent, to allow for inspection and cleaning.
- (d) Each holding tank shall have its rated capacity permanently marked on the unit. In addition, a sign "GRAYWATER IRRIGATION SYSTEM, DANGER — UNSAFE WATER" shall be permanently marked on the holding tank.
- (e) Each holding tank installed above ground shall have an emergency drain, separate from that connecting the tank with the irrigation/disposal fields, and an overflow drain. The emergency and overflow drains shall have permanent connections to the building drain or building sewer, upstream of septic tanks, if any. The overflow drain shall not be equipped with a shutoff valve.
- (f) The overflow and emergency drain pipes shall not be less in size than the inlet pipe. The vent size shall be determined based on the total graywater fixture units, as outlined in Table 7-5 of this Code. Unions or equally effective fittings shall be provided for all piping connected to the holding tank.
- (g) Each holding tank shall be structurally designed to withstand all anticipated earth or other loads. All holding tank covers shall be capable of supporting an earth load of not less than three hundred (300) pounds per square foot (1464.6 kg/m²) when the tank is designed for underground installation.
- (h) If a holding tank is installed underground, the system must be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve.
- (i) **Materials**
 - (1) Holding tanks shall be steel, protected from corrosion, both externally and internally, by an approved coating or by other acceptable means, shall meet nationally recognized standards for the intended use, and shall be approved by the Administrative Authority.
 - (2) Holding tanks constructed of alternate material may be approved by the Administrative Authority, provided they comply with approved applicable standards.

G 10 Valves and Piping (See Figures G-1, G-2, G-3 and G-4.)

Graywater piping discharging into the holding tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved waterseal type trap(s). If no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from any possible waste or sewer gasses. All graywater piping shall be marked or shall have a continuous tape marked with the words "DANGER — UNSAFE WATER." All valves, including the three-way valve, shall be readily accessible and shall be approved by the Administrative Authority. A backwater valve, installed pursuant to this Code, shall be provided on all holding tank drain connections to the sanitary drain or sewer piping.

G 11 Irrigation/Disposal Field Construction (See Figure G-5.)

- (a) Perforated sections shall be a minimum three (3) inch (80 mm) diameter and shall be constructed of perforated high density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, or other approved materials, provided that sufficient openings are available for distribution of the graywater into the trench area. Material, construction, and perforation of the pipe shall be in compliance with the appropriate absorption fields drainage piping standards and shall be approved by the Administrative Authority.
- (b) Filter material, clean stone, gravel, slag, or similar filter material acceptable to the Administrative Authority, varying in size from three-quarter (3/4) inch (20 mm) to two and one-half (2-1/2) inch (65 mm) shall be placed in the trench to the depth and grade required by this section. The perforated section shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth required by this section. The filter material shall then be covered with untreated building paper, straw, or similar porous material to prevent closure of voids with earth backfill. No earth backfill shall be placed over the filter material cover until after inspection and acceptance.
- (c) Irrigation/disposal fields shall be constructed as follows:

	Minimum	Maximum
Number of drain lines per valved zone	1	—
Length of each perforated line	—	100 ft. (30840 m m)
Bottom width of trench	12 in. (305 mm)	18 in. (457 m m)
Spacing of lines, center-to-center	4 ft. (1219 mm)	—
Depth of earth cover of lines	10 in. (254 mm)	—
Depth of filter material cover of lines	2 in. (51 mm)	—
Depth of filter material beneath lines	3 in. (76 mm)	—
Grade of perforated lines	level 3 in./100 ft.	2 mm/m

(d) When necessary on sloping ground to prevent excessive line slopes, irrigation/disposal lines shall be stepped. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on natural or unfilled ground.

G 12 Special Provisions

(a) Other collection and distribution systems may

be approved by the local Administrative Authority, as allowed by Section 301.0 of this Code.

(b) Nothing contained in this appendix shall be construed to prevent the Administrative Authority from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

TABLE G-1
Location of Graywater System

Minimum Horizontal Distance in Clear Required From:	Holding Tank		Irrigation/ Disposal Field	
	Feet	(mm)	Feet	(mm)
Building Structures ¹	5 ²	(1524 mm)	2 ³	(610 mm)
Property line adjoining private property	5	(1524 mm)	5	(1524 mm)
Water supply wells ⁴	50	(15240 mm)	100	(30480 mm)
Streams and lakes ⁴	50	(15240 mm)	50 ⁵	(15240 mm)
Sewage pits or cesspools	5	(1524 mm)	5	(1524 mm)
Disposal field and 100% expansion area	5	(1524 mm)	4 ⁶	(1219 mm)
Septic tank	0	(0)	5	(1524 mm)
On-site domestic water service line	5	(1524 mm)	5	(1524 mm)
Pressurized public water main	10	(3048 mm)	10 ⁷	(3048 mm)

Notes: When irrigation/disposal fields are installed in sloping ground, the minimum horizontal distance between any part of the distribution system and the ground surface shall be fifteen (15) feet (4572 mm).

¹ Including porches and steps, whether covered or uncovered, breezeways, roofed porte-cochères, roofed patios, carports, covered walks, covered driveways and similar structures or appurtenances.

² The distance may be reduced to zero feet for above ground tanks when first approved by the Administrative Authority.

³ Assumes a 45 degree (0.79 rad) angle from foundation.

⁴ Where special hazards are involved, the distance required shall be increased as may be directed by the Administrative Authority.

⁵ These minimum clear horizontal distances shall also apply between the irrigation/disposal field and the ocean mean higher high tide line.

⁶ Plus two (2) feet (610 mm) for each additional foot of depth in excess of one (1) foot (305 mm) below the bottom of the drain line.

⁷ For parallel construction/for crossings, approval by the Administrative Authority shall be required.

TABLE G-2
Design Criteria of Six Typical Soils

Type of Soil	Minimum square feet of irrigation/leaching area per 100 gallons of estimated graywater discharge per day	Maximum absorption capacity in gallons per square foot of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	20	5.0
Fine sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

TABLE G-2 (Metric)
Design Criteria of Six Typical Soils

Type of Soil	Minimum square meters of irrigation/leaching area per liter of estimated graywater discharge per day	Maximum absorption capacity in liters per square meter of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	0.005	203.7
Fine sand	0.006	162.9
Sandy loam	0.010	101.8
Sandy clay	0.015	69.2
Clay with considerable sand or gravel	0.022	44.8
Clay with small amounts of sand or gravel	0.030	32.6

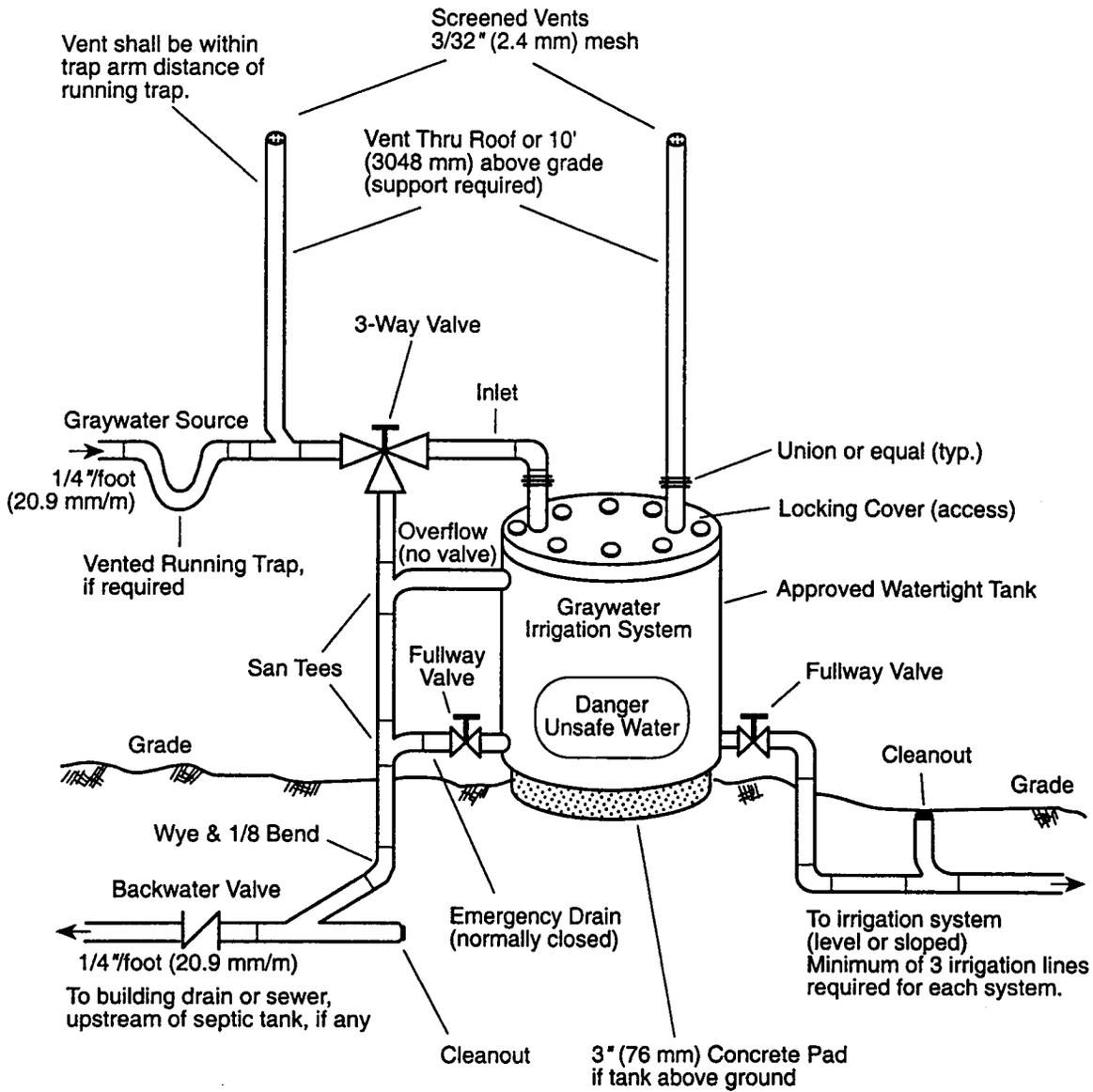


Figure G-1
Graywater System Tank – Gravity

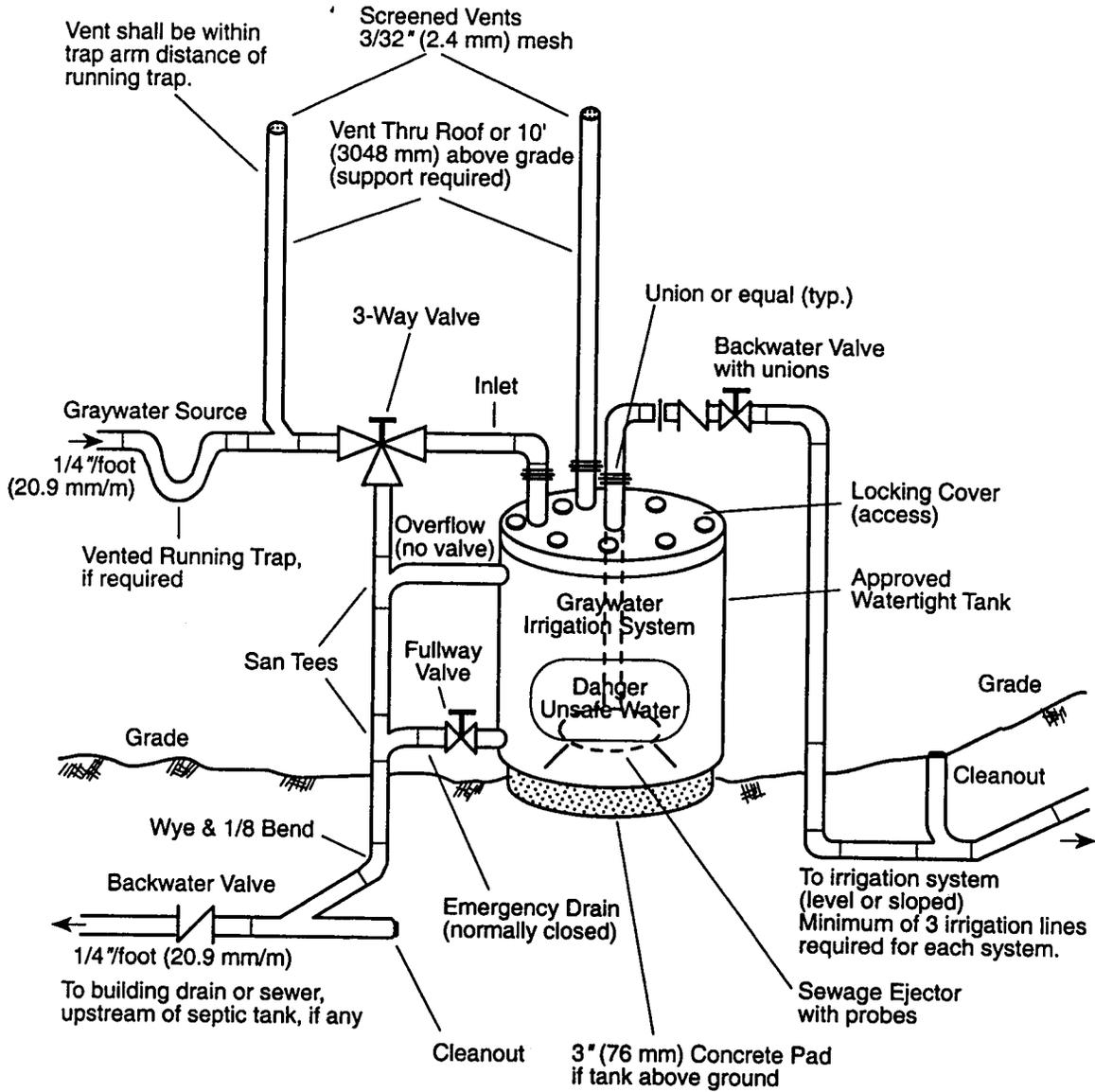


Figure G-2
Graywater System Tank – Pumped

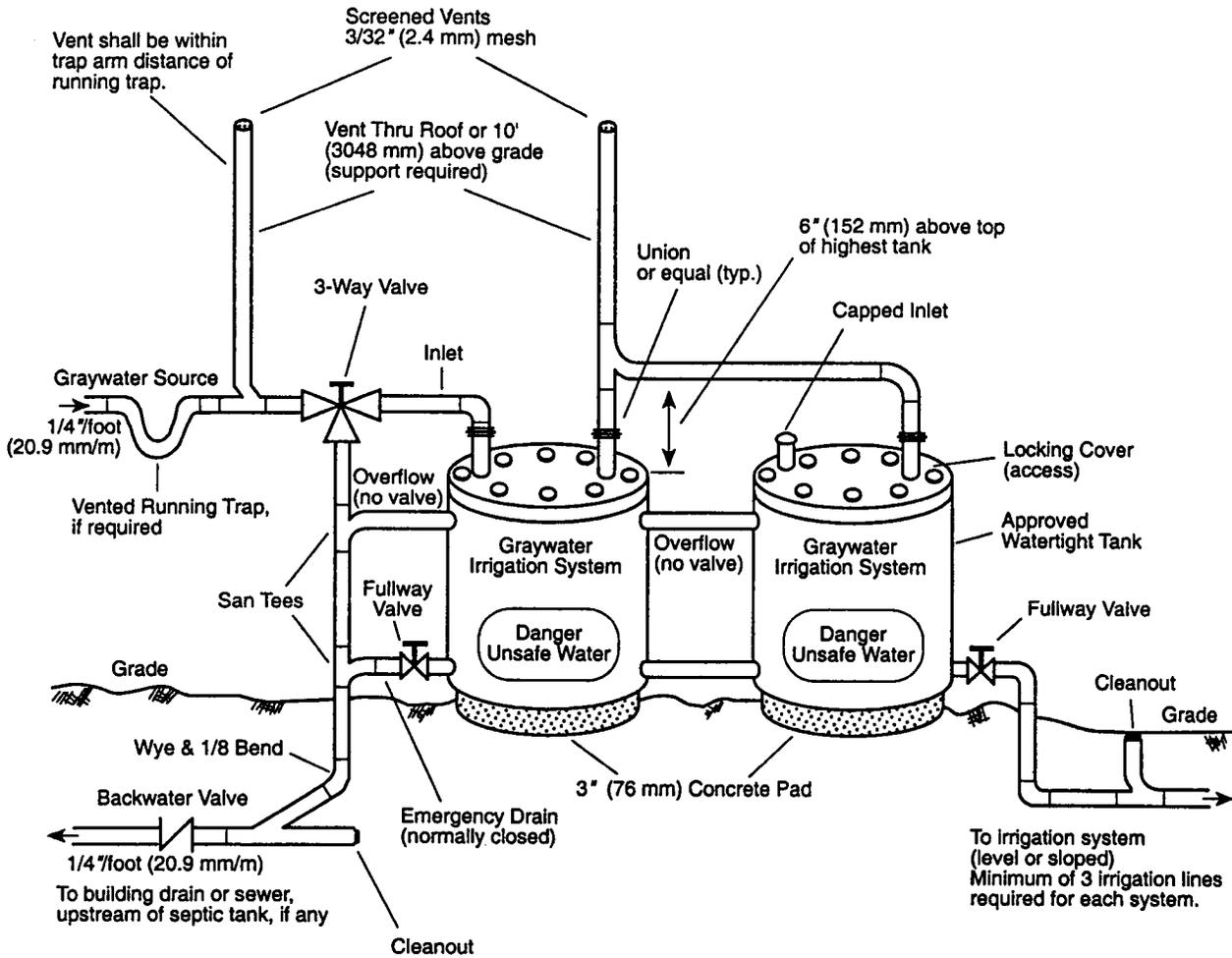


Figure G-3
Graywater System Multiple Tank Installation

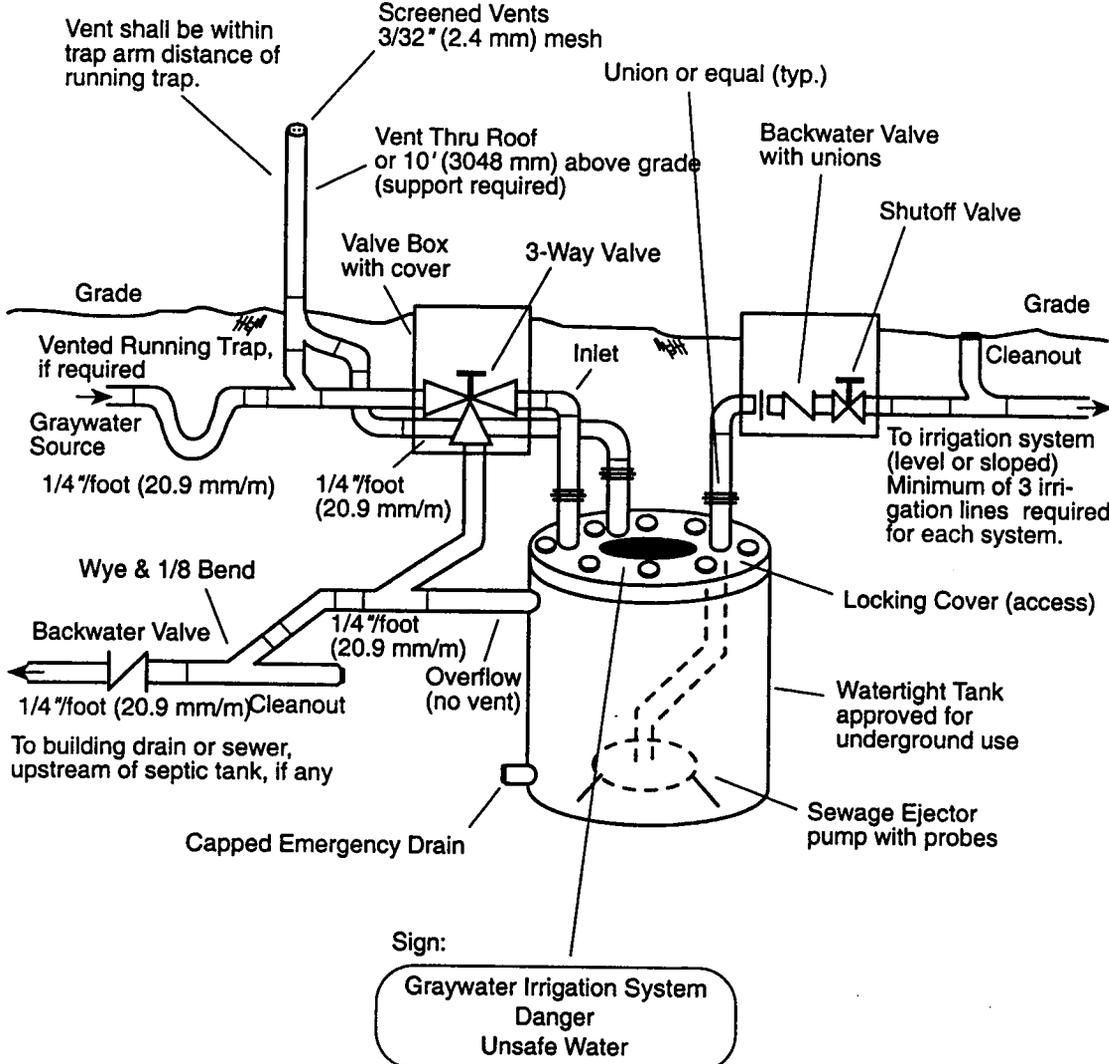
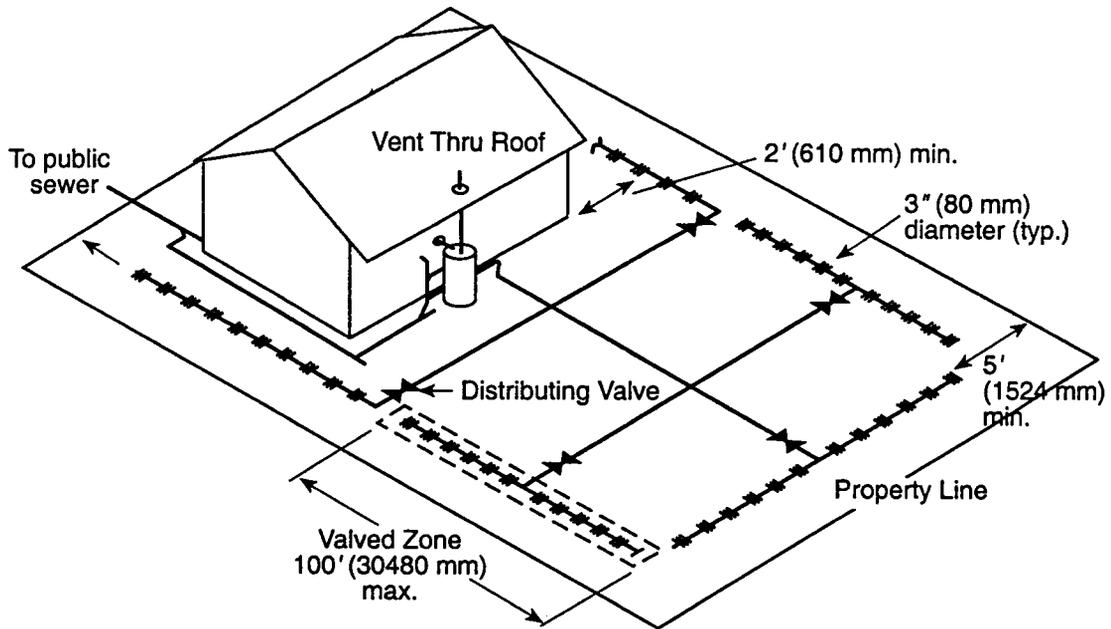


Figure G-4
Graywater System Underground Tank – Pumped



Note: Each valved zone shall have a minimum effective absorption/irrigation area in square feet predicated on the estimated graywater discharge in gallons per day and on the type of soil found in the area. The area of the field shall be equal to the aggregate length of perforated pipe sections within the valved zone times the width of the proposed field.

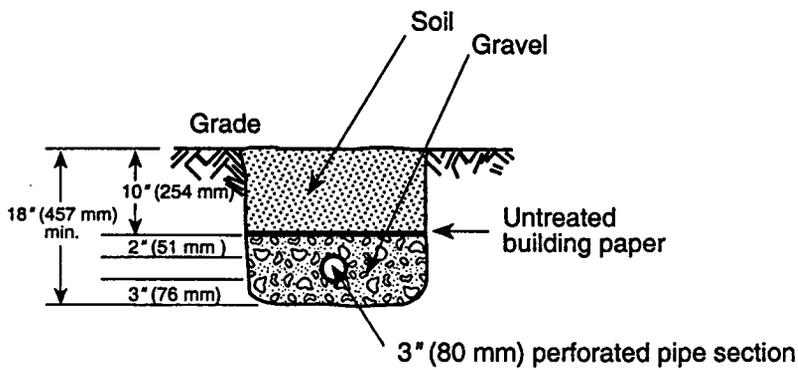


Figure G-5
Graywater System Typical Irrigation Layout

1993

NATIONAL STANDARD PLUMBING CODE



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GRAYWATER RECYCLING SYSTEMS

G.1 Forward

In the United States today, regulations concerning water conservation, moratoriums on sewer connections, and restrictions on sewer permits are a clear indication of a growing economy restrained by a lack of available water. Water being a finite resource, these actions serve as a warning that without adequate planning for our future water needs, America is facing a critical water supply shortage.

In virtually all major metropolitan and many suburban areas in the country, water treatment plants are overloaded and many, due to neglect and deferred maintenance, are beginning to fail. Finding additional water sources and supplies and expanding existing water treatment plant capacity is expensive, sometimes impractical, and at best, involves long range planning.

Traditionally, the municipal treatment facility has been the primary source of water disposal for single and multi-family residential buildings and complexes. As long term water shortages increasingly are predicted in several areas across the nation, water conservation becomes more of a national issue. Fortunately, alternative technical solutions are currently available.

Various potentially useful and dependable water treatment and recycling technologies are being explored. One possible source is graywater recycling, an on-site wastewater treatment and recycling system, also known as "Graywater Systems". This promising technology offers a practical solution to the water shortage problem as it applies to plumbing installations. Graywater systems are designed to safely manage wastewater and reduce water consumption. Graywater systems can be used in all types of residential, commercial, institutional, and industrial buildings. Some graywater applications include toilet and urinal flushing, landscape irrigation, supply water for ornamental ponds and make up water for cooling towers.

G.2 Definitions

G.2.1 Biological Treatment: A method of wastewater treatment in which bacterial or biochemical action is intensified as a means of producing an oxidized wastewater.

G.2.2 Black Water: Used untreated water that is flushed down toilets and urinals. This water cannot be directly reused.

G.2.3 Effluent: Partially or completely treated liquid waste discharge from a wastewater treatment system.

G.2.4 Graywater: Used untreated water generated by clothes washing machines, showers, bathtubs and lavatories. It shall not include water from kitchen sinks or dishwashers.

G.2.5 Reclaimed Water: Effluent from a wastewater treatment facility that has been subjected to extensive treatment in order to remove organic material, heavy metals, and harmful pathogens (such as bacteria, viruses, and protozoa). Reclaimed water is non-potable.

G.2.6 Septic Tank: A water-tight receptacle which receives the discharge of a building sanitary drainage system or part thereof, and is designed and constructed so as to separate solids from the liquid, digest organic matter through a period of detention, and allow the liquids to discharge into the soil outside of the tank through a system of open joint or perforated piping, or a seepage pit.

G.2.7 Wastewater: The combination of liquid and water-carried pollutants from residences, commercial buildings, industrial plants, and institutions.

G.3 Approved Materials

All materials, fixtures or equipment used in the installation, repair or alteration of graywater systems, shall conform to the standards set forth in Chapter 3 of this Code. Nothing contained herein shall prohibit the local Administrative Authority from imposing more stringent requirements.

Materials not listed in Chapter 3 of this Code may be used with the approval of the local Administrative Authority as permitted in Section 3.12.2.

G.4 Approved Installations

Prior to construction of a graywater system, the appropriate permits shall be obtained from the Administrative Authority having jurisdiction. The applicant shall provide the Administrative Authority with complete plans and manufacturers' recommendations of the proposed installation.

All pipe sizing and installation procedures shall conform to the applicable sections of this Code. Nothing shall preclude the local Administrative Authority from requiring more stringent compliance procedures.

G.5 Prohibited Installations

Surface draining graywater shall not be permitted to collect on the surface of the ground or to run off the property. Graywater shall not be permitted to come in direct contact with edible food sources.

G.6 Acceptable Treatment Methods

G.6.1 Nylon or Cloth Filter

The nylon or cloth filter system typically consists of a filter bag connected to the graywater inlet pipe in a tank. The graywater is passed through the filter media (which collects hair and lint) and proceeds on for further treatment.

G.6.2 Sand Filter

The sand filter system consists of a sand and rock filled tank with an underdrain system. The graywater is poured onto splash plates and then filtered through filter

media, while receiving physical and biological treatment. The filtered graywater then is collected and transported via an underdrain system for reuse.

G.6.3 Diatomaceous Earth Filter

Diatomaceous filters are commonly used for filtering water for swimming pools and spas. The use of this type of filter is primarily limited to separating solids in suspension with the use of a recirculating line.

G.6.4 Rack or Grate Filters

The primary function of the rack or grate filter is to remove particle matter from the graywater.

G.6.5 Collection and Settling

Commonly found in septic systems, whereby solids flow into the tank and are permitted to settle to the bottom forming a sludge layer.

G.6.6 Biological Treatment Units

Typically a process in which solids are separated through the use of three chambers. Pre-settling, aeration, and final settling separate the solids while allowing biological treatment prior to reuse. This type of treatment is usually found in large commercial applications.

G.6.7 Reverse Osmosis

A process involving treatment of the graywater by a reverse osmosis unit.

G.6.8 Physical/Chemical Treatment

Graywater is processed through a rapid mix tank in which polymer and activated carbon are added. The treated graywater is then passed through a settling tank in which sludge is removed. The graywater then goes on to numerous filters for further treatment.

G.7 Disinfection Techniques

Ultraviolet Irradiation

Ozone

Chlorine

Iodine

G.8 Irrigation Methods

Mini-Leachfield

Drip Irrigation

G.9 Protection of the Potable Water Supply

A graywater system shall be designed, installed and maintained to prevent contamination from non-potable liquids, solids or gases into the potable water supply through cross-connections.

In all buildings where dual water systems are installed, one potable water and one non-potable water, each system shall be identified either by color marking or metal tags, or other appropriate method as approved by the Administrative Authority having jurisdiction. Each outlet on the non-potable water line which may be used for drinking or domestic purposes shall be posted: **DANGER—UNSAFE WATER.**

The potable water supply shall be protected from backflow and back-siphonage by an approved method of cross-connection control required by Sections 10.4 and 10.5 of this Code. Nothing contained herein shall prohibit the local Administrative Authority from requiring more stringent requirements.

G.10 Testing

All applicable sections of this appendix shall conform to the body of this Code. Installation of the graywater system shall conform in all aspects to the manufacturers recommended installation procedures.

Systems shall be tested and comply with the local authority having jurisdiction. Piping, valves, and fittings shall be tested in compliance with Chapter 15 of this Code.

G.11 Maintenance

The graywater system shall be maintained in accordance with the manufacturers recommended maintenance instructions.

Nothing in this Appendix shall preclude the local Administrative Authority from requiring additional maintenance procedures.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

12100 Park 35 Circle
Austin, Texas 78753

REQUEST FOR QUOTATION (RFQ) - MEETING FACILITATION SERVICES

RFQ #582-0-83217

Due 2:00 P.M., July 27, 2000

Number of pages (including this page): 3Date: 7-20-00To: Bruce Ray

From: Kevin Warren

Company: PSI

Dept: Procurement & Contracts

Fax #: 425-8997

Fax no: (512) 239-6004

Phone #: 425-8988

Phone no: (512) 239-6314

TERMS AND CONDITIONS

1. TNRCC is accepting written quotations on behalf of the On-site Wastewater Treatment Research Council (Council) for meeting facilitation services per the following scope of service.
2. Quotes may be returned by fax, using the attached quote form to TNRCC, attn: Kevin Warren, TNRCC Contract Coordinator, at (512) 239-6004, by the specified due date/time, or may be mailed or hand-carried to the above address.
3. Quotes must be held open for thirty (30) days from the specified due date/time.
4. For technical questions related to the scope of service, call Annette Maddern at (512) 239-5304.

SCOPE of SERVICE

Background: House Bill 346, passed by the Legislature in 1993, authorized the Texas Natural Resource Conservation Commission (TNRCC) and the Texas State Board of Plumbing Examiners to jointly develop and adopt, by rule, minimum standards for the use and reuse of greywater. The Legislature amended Section 26.0311(a) of the Texas Water Code, and Section 341.039 of the Texas Health and Safety Code. To date, these rules have not been developed.

The Council has agreed to sponsor a workshop, to be held on or about August 24, 2000, (specific date to be arranged with the successful bidder) to gather input from the TNRCC, the Texas State Board of Plumbing Examiners, and other stake holders to address the following:

- identifying and developing a list of issues relating to greywater use;
- determining if additional rules are necessary;

c. Identifying future actions.

The successful bidder will facilitate this workshop with the following specific requirements:

- a. Coordinate a meeting place for approximately 50 people in a neutral location within Austin. The meeting room should be arranged in a classroom setting that provides each attendee work space (i.e. tables) to facilitate note taking etc. Drinks (coffee, soft drinks, and water) shall be included and must be available throughout the entire meeting. Lunch should not be included.
 - b. The meeting shall be audio taped. Vendor shall be responsible for providing audio-visual equipment as appropriate.
 - c. After obtaining a list of attendees from the Council's staff, develop and prepare a written invitation, which would include a short survey of possible issues.
 - d. Develop an agenda for the workshop from the issues compiled from the survey.
 - e. Facilitate one eight (8) hour workshop session.
 - f. Develop the recommendations for each issue listed above.
 - g. Attend a follow-up meeting with the staff of TNRCC and the Texas State Board of Plumbing Examiners to present findings.
 - h. Prepare a written final report for the Council's approval within sixty (60) days following the workshop.
3. The successful bidder shall furnish the following to the Council's Executive Secretary for approval:
- a. A proposed time line for the project;
 - b. Master copy of the invitation, the survey, and the workshop agenda;
 - c. Visual aids for issues to be addressed;
 - d. Final written report of meeting to include the issues addressed, input on each issue, and recommendations of group on each issue (e.g., rule change; policy guidance; further action required; etc.).
4. The Council will provide:
- a. List of attendees, and
 - b. Reproduced copies of the workshop agenda for each participant.
5. The following are evaluation factors and the relative weights associated with each factor that will serve as the basis for award. Return the Quote Form, completed and signed, and a narrative describing your qualifications and experience.

<u>Evaluation Factor</u>	<u>Relative Weight</u>
Price	50 points
Qualifications/Experience	<u>50 points</u>
Total	100 points

- a. Price: Bid your best firm-fixed "turn-key" price in the space provided on the Quote Form.
- b. Qualifications/Experience: Describe your or your firm's qualifications and experience with respect to previous or current contracts you have been awarded, that are similar in scope to the requirements described herein. Describe your experience with respect to curriculum development to respond to TNRCC rules, and your experience in facilitation of advisory committees with diverse membership in the environmental field. Describe your knowledge and ability to gather participant input. Include any academic and/or professional credentials you have in the field of adult education and training. Use an attached sheet(s) and limit your response to two (2) typed pages.

QUOTE FORM

Description

Unit Price

I. Meeting Facilitation Services.

\$ _____

Note: Return this form, completed and signed, and your narrative regarding Qualifications and Experience.

Company Name _____

Address _____

City, State, Zip _____

Authorized Agent
(Printed) _____

Authorized Agent
(Signature) _____

Date _____

July 27, 2000

Kevin Warren
TNRCC Contract Coordinator
12100 Park 35 Circle
Austin, TX 78753

Dear Mr. Warren:

PSINet Consulting Solutions is pleased to submit the following proposal for the Texas Natural Resource Conservation Commission (TNRCC) for meeting facilitation services. We offer the Texas Natural Resource Conservation Commission outstanding qualifications in facilitating work sessions involving inter-departmental and cross-functional relationships.

PSINet Consulting Solutions is one of the world's largest providers of business and technology solutions. With 60 offices and more than 5,600 employees across the United States and around the globe, PSINet Consulting Solutions delivers flexible, value-added services through a combination of geographic presence, industry focus and specialized technology practices. Work sessions led by PSINet Consulting Solutions' experienced facilitators will enhance your organizational expertise and enable competitively superior decisions, designs, and deliverables.

PSINet Consulting Solutions is a legal corporation. Our headquarters' address is: 4400 Post Oak Parkway, Suite 2300 Houston, TX 77027-3413.

The primary point of contact for this proposal, which will be served from our Austin, Texas, branch office is: Bruce Ray, Consultant 11211 Taylor Draper Lane, Suite 115 Austin, Texas 78759.

e-mail address: bruce.ray@psinetcs.com
Telephone: 512-425-8974
Fax: 512-425-8997

Finally, please note that PSINet Consulting Solutions recently underwent a name change (former name Metamor Business Solutions) to reflect the change in status following the acquisition of Metamor Worldwide by PSINet, effective June 16, 2000. PSINet Consulting Solutions is working to finalize name changes with the Texas Secretary of State and the Texas Comptroller's Office.

This proposal will remain valid for a period of 60 days from the submittal date of July 27, 2000. If you have any questions or require further information, please contact Bruce Ray at 425-8974.

Sincerely,

Pat Wyman
Vice President, Texas

Quote Form

<u>Description</u>	<u>Unit Price</u>
1. Meeting Facilitation Services Per RFQ #582-0-83217	\$10,000

PSINet Consulting Solutions
11211 Taylor Draper Lane
Suite 115
Austin, Texas 78759

Pat Wyman
Vice President, Texas

BRUCE RAY
Consultant

SUMMARY

Mr. Ray is a trained facilitator with more than 5 years experience in facilitating meetings for requirements determination, brainstorming, planning, problem solving, and prioritization. Mr. Ray is an experienced project manager and software developer with more than 20 years experience in business applications development. Mr. Ray is exceptionally strong in project management, requirements gathering, user training, and applications including state health care, budgeting, sales analysis, financial analysis, risk management, purchasing, inventory management, demand forecasting, material control, and bill of material. He brings excellent written and oral communication skills along with an outstanding ability to work with people to his project work assignments.

PROFESSIONAL EXPERIENCE

Facilitation

Mr. Ray was the JAD Facilitator for the State of Texas Medicaid Administrator. He designed the approach and conducted over fifteen sessions to verify requirements with external clients for the Claims Management System. He designed the approach and facilitated a four-hour brainstorming session for senior management with over fifty participants. He designed the approach and facilitated two sessions to obtain requirements for an Electronic Funding Transfer (EFT) method for the Texas Department of Health (TDH). This involved gathering input from multiple state agencies. One four-hour session was held with TDH employees. The second session, a six-hour event, was held with over forty representatives from the Health Insurance providers to the State of Texas Medicaid program.

Mr. Ray facilitated a series of four public meetings for the City of Austin Water & Wastewater Department where citizens were able to provide input for the City of Austin / Lower Colorado River Authority (LCRA) agreement for a fifty year water supply for the City of Austin. The meetings were held over four weeks and held at various locations across Austin. The sessions were scheduled to last two hours each.

Mr. Ray designed the approach and facilitated a focus group study for the City of Austin Planning, Environmental, and Conservation Services Department to make recommendations to improve the Free Ultra Low Flow Toilet program. Mr. Ray met with the project sponsor to obtain requirements and document deliverables, arranged for the location, contacted water customers to act as participants, facilitated the focus group, and provided documentation of the results to the sponsor.

Mr. Ray was part of a group determining requirements for a customer relationship management (CRM) system for a local financial company. He gathered over 1,000 individual statements generated from eight departmental meetings and five individual interviews. The departmental meetings were facilitated sessions. These statements were categorized and presented at an executive meeting for prioritization. The requirements study uncovered issues beyond the scope of the initial project. All issues outside of scope were captured and preserved for future action. The results of the requirements study showed the organization had process issues to improve before any automation could be considered.

Mr. Ray provided business performance improvement consulting for the City of Austin Water & Wastewater Department Advisory Commission. He observed the Commission's public meetings and submitted recommendations for improving their public meeting processes and improving how Commissioners communicated among themselves and with the Water & Wastewater Department staff.

BRUCE RAY
Page 2

EDUCATION

University of Texas
B.A. Computer Science

TRAINING

EDS Facilitation Basics Workshop (4 day internal class)
 System Life Cycle internal training classes
 Requirements Determination (Instructor for 1 day internal class)
 Presentation Skills (Instructor for 1 day internal class)

IBM JAD Specialist Workshop (4 day class)

Professional affiliations

Southwest Facilitator Network
Austin Facilitator Network

References

Donald Evans
Director, Project Management/Systems Testing
Texas Department of Human Services
(512) 338-6586

William de Herrera
Water Conservation Associate
Planning, Environmental and Conservation Services Department
City of Austin
(512) 499-3542

Bart Jennings
Senior Management Analyst
Water and Wastewater Department
City of Austin
(512) 322-2907



PURCHASE ORDER

ON ALL PAPERS AND PACKAGES SHOW THIS NO.

DATE 08/07/00

AGENCY ORDER NO. 582-0- 83217



INVOICE ADDRESS

TNRCC-MC 227
P O BOX 13087
AUSTIN, TX 78711-3087

DESTINATION OF GOODS IF DIFFERENT THAN ABOVE

TNRCC - MC 193
ROOM 124 BLDG A
12100 PARK 35 CIRCLE
AUSTIN, TX 78753

VENDOR

14117894783
PSINET CONSULTING SOLUTIONS/
METAMOR BUSINESS SOLUTIONS
11211 TAYLOR DRAPER LN STE 115
AUSTIN TX 78759

The merchandise has been received in good condition and accepted.

Date Delivered to Agency _____ Date Delivered to Division or Unit _____

Received By _____ Signature of Division or Unit _____

SPOT SERVICE CATALOG 4581 906286
 EMERGENCY 3.09 CONTRACT

ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
1	924-60 Meeting facilitation services for the On-site Wastewater Treatment Research Council on 8/30/00. Order issued per quote #582-0-83217 by Bruce Ray on 7/27/00.	1 LOT	10000.00	10000.00
			TOTAL: \$	10000.00

STATE AND CITY SALES TAX EXEMPTION CERTIFICATE: The undersigned claims an exemption from taxes under Chapter 20, Title 122A, Revised Civil Statutes of Texas, for purchase of tangible personal property described in this number order, purchased from contractor and/or shipper listed above as this property is being secured for the exclusive use of the State of Texas.

Jeannette L. Penn
Signature of authority recognized by GSC

ENROLLED

H.B. No. 346

AN ACT

relating to the regulation of greywater.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 26.0311(a), Water Code, is amended to read as follows:

(a) In this section, "greywater" means wastewater from clothes washing machines, showers, bathtubs, handwashing lavatories, and sinks that are not used for [food-preparation-or] disposal of hazardous or toxic [chemical---and---biological] ingredients.

SECTION 2. Section 341.039, Health and Safety Code, is amended to read as follows:

Sec. 341.039. GRAYWATER STANDARDS. (a) The board and the Texas State Board of Plumbing Examiners by rule shall adopt and implement minimum standards for the use and reuse of graywater in irrigation and for other agricultural, domestic, commercial, and industrial purposes to assure that the use of graywater is not a nuisance and does not damage the quality of surface water and groundwater in this state.

(b) In this section, "graywater" means wastewater from clothes-washing machines, showers, bathtubs, hand-washing lavatories, and sinks that are not used for [food-preparation-or] disposal of hazardous or toxic [chemical---and---biological] ingredients.

1 SECTION 3. The importance of this legislation and the
2 crowded condition of the calendars in both houses create an
3 emergency and an imperative public necessity that the
4 constitutional rule requiring bills to be read on three several
5 days in each house be suspended, and this rule is hereby suspended,
6 and that this Act take effect and be in force from and after its
7 passage, and it is so enacted.

BILL ANALYSIS

Senate Research Center

H.B. 346
By: Maxey
Natural Resources
7-13-93
Enrolled

BACKGROUND

Recycling graywater, which is commonly defined as all household wastewater excluding toilet waste, is a feasible method of reducing water consumption and lessening the burden on wastewater treatment facilities.

PURPOSE

As enrolled, H.B. 346 sets forth additional regulatory authority for the regulation of graywater and broadens the definition of graywater.

RULEMAKING AUTHORITY

It is the committee's opinion that rulemaking authority is granted to the Texas State Board of Plumbing Examiners in SECTION 2 (Section 341.039, Health and Safety Code) of this bill.

SECTION BY SECTION ANALYSIS

SECTION 1. Amends Section 26.0311(a), Water Code, to amend the definition of "graywater."

SECTION 2. Amends Section 341.039, Health and Safety Code, to require the Texas State Board of Plumbing Examiners to adopt, by rule, standards for the use and reuse of graywater. Makes conforming changes.

SECTION 3. Emergency clause.
Effective date: upon passage.

Health and Safety Code

TITLE 5. SANITATION AND ENVIRONMENTAL QUALITY

SUBTITLE A. SANITATION

CHAPTER 341. MINIMUM STANDARDS OF SANITATION AND HEALTH
PROTECTION MEASURES

Sec. 341.039. Graywater Standards.

(a) The commission and the Texas State Board of Plumbing Examiners by rule shall adopt and implement minimum standards for the use and reuse of graywater in irrigation and for other agricultural, domestic, commercial, and industrial purposes to assure that the use of graywater is not a nuisance and does not damage the quality of surface water and groundwater in this state.

(b) In this section, "graywater" means wastewater from clothes-washing machines, showers, bathtubs, hand-washing lavatories, and sinks that are not used for disposal of hazardous or toxic ingredients.

Acts 1989, 71st Leg., ch. 678, Sec. 1, eff. Sept. 1, 1989.

Amended by Acts 1993, 73rd Leg., ch. 233, Sec. 2, eff. Aug. 30, 1993; Acts 1995, 74th Leg., ch. 76, Sec. 11.16, eff. Sept. 1, 1995.

Water Code

SUBTITLE D. WATER QUALITY CONTROL

CHAPTER 26. WATER QUALITY CONTROL

Sec. 26.0311. Standards for Control of Greywater.

(a) In this section, "greywater" means wastewater from clothes washing machines, showers, bathtubs, handwashing lavatories, and sinks that are not used for disposal of hazardous or toxic ingredients.

(b) The commission by rule shall adopt and implement minimum standards for the use of greywater in irrigation and for other agricultural, domestic, commercial, and industrial purposes that will assure that the use of greywater will not be a nuisance or damage the quality of surface water and groundwater in this state.

Added by Acts 1987, 70th Leg., ch. 541, Sec. 1, eff. Sept. 1, 1987.

Amended by Acts 1993, 73rd Leg., ch. 233, Sec. 1, eff. Aug. 30, 1993.

From <http://capitol.tlc.state.tx.us/statutes/statutes.html> The Texas Statutes

Proposed Attendees

Greywater Meeting

Bruce Lesikar
Texas Agricultural Extension Service
306 Scoates Hall
College Station, Tx 77843
979/845-7453

Randy Chelette, President
Texas Onsite Wastewater Association
918 Congress Avenue
Suite 200
Austin, Tx 78701
494-1125

(2 representatives)

J. D. Beffort
Texas Water Development Board
P. O. Box 13231
Austin, Tx 78711-3231
463-7989

John Blount, Vice Chairman
Texas On-Site Wastewater Treatment Research Council
Harris County Engineering Dept.
Permits Division
9900 Northwest Freeway, Suite 103
Houston, Tx 77092-8615
713/956-3015

TNRCC
P. O. Box 13087
Austin, Tx 78711-3087
Installer Certification Section
239-4799

(6 representatives)

Louis Herrin
TNRCC
Wastewater Permitting Section
239-4552

Johnny Kurten
State Board of Plumbing Examiners
P. O. Box 4200
Austin, Tx 78765
458-2145

(10 representatives)

LCRA
P. O. Box 220
Austin, Tx 78767
473-3200

You are cordially invited to attend a workshop to review existing greywater rules to determine if further development of those rules is needed. This workshop is scheduled for 9:30 am through 5:00 pm Friday August 25, 2000 in the Board Room at the Lower Colorado River Authority Hancock Building, 3700 Lake Austin Boulevard in Austin, Texas.

Invitees include representatives from Texas Natural Resource Conservation Commission, Texas State Board of Plumbing Examiners, Texas On-Site Wastewater Treatment Research Council, Texas Water Development Board, Texas Onsite Wastewater Association, Texas Agricultural Extension Service, and other interested parties.

House Bill 346, passed by the Texas Legislature in 1993, authorized the Texas Natural Resource Conservation Commission and the Texas State Board of Plumbing Examiners to jointly develop and adopt, by rule, minimum standards for the use and reuse of greywater. This workshop is designed to identify and develop a list of issues relating to greywater use, determine if additional rules are necessary, and consider future actions.

Please make every effort to attend. Your participation is crucial to the success of this workshop. I will need each of you to provide me with your list of critical issues relating to greywater use. Areas to consider may include the definition of greywater, jurisdiction, dual certification, specific rules, and who is allowed to install greywater systems. Please take the time necessary to develop your list of issues and forward them to me by Tuesday August 22. You may send your list by email, by fax, or by mail. I will use your lists of issues to develop the agenda for the workshop.

When you return your lists of issues to me, please include a list of participants you expect to attend from your agency or constituencies. Also include contact information for each participant including mailing address, phone number, fax number, and email address. I will send each of the participants a copy of the proposed agenda along with any preparation for the workshop.

I look forward to serving as your facilitator for the workshop. Should you have any questions concerning this workshop, please contact me by phone at (512) 425-8974 or by fax at (512) 425-8997 or through email at bruce.ray@psinetcs.com.

Bruce Ray
Facilitator
PSINet Consulting Solutions
11211 Taylor Draper Lane, Suite 115
Austin, Texas 78759
Phone: (512) 425-8974
Fax: (512) 425-8997
Email bruce.ray@psinetcs.com

GRAYWATER

1. Who can install greywater systems? Only TRNCC licensed installers.
2. Who can design greywater systems? Per Rules of 30TAC285 & Engineering Practices Act.
3. Changes – No requirements for lint filter on laundry discharge lines. Machines already have internal filters.
4. Except for laundry washing machines, it is imperative that greywater continue to be classified as sewage and that direct discharge continue to be limited to laundry discharge for single family residential only.
5. Rules should be incorporated into 30TAC285 for removal of greywater from flow (Q) and change January 97 policy (TNRCC) to Rules.
6. Rule should be promulgated to limit areas where greywater can be applied (i.e. sanitary easement of water well)