# Amending C.S.H.B 2062
# 83rd Texas Legislature

Authored by:
Chris-Maxwell Gaines, P.E.
Jack Holmgreen, Director, ARCSA
John Kight, P.E.
Scott O. Shaffer, WTS III

April 30, 2013

Scott O. Shaffer, WTS III
Texas Water Savers Co.
1823 Loehr Road
La Grange, Texas 78945

April 30, 2013

Rep. Lois Kolkhorst
Texas House of Representatives
Austin, Texas

Dear Rep. Kolkhorst:

Support and encouragement for rainwater harvesting is growing among Texans. The prolonged drought has been a recent spur but a growing population plus a greater overall awareness of the need to develop water resources across the state have played increasingly significant roles driving this increased interest. The last thing any of us want to do is inhibit this interest or the momentum that is clearly building behind greater use of rainwater harvesting systems in Texas.

The Committee Substitute H.B. 2062 will do just that – it will inhibit public and private, consumer, not-for-profit and for-profit interests from supporting rainwater harvesting and increase the price to the consumer – for no good reason.

We don't know why the bill was introduced or why it remains worded as it is, but we take Rep. John Davis' legislative assistant Worth Farabee's recent reply as clear evidence that there's a miscommunication somewhere. We want to be much clearer.

This document includes TCEQ diagrams illustrating "what we are talking about when we talk about rainwater harvesting systems and the public water system. The first drawing shows a system not connected; subsequent diagrams show the various ways systems are to be connected, according to TCEQ.

Following the diagrams is a list of typical construction tasks typically completed by rainwater harvesting system builders and installers. The tasks listed are not typically plumber services and much better provided by a rainwater systems expert. Further, rainwater system builders typically offer on-going/yearly maintenance plans, again, not typically offered by plumbers.

We have also provided amended C.S.H.B. 2062 language as well as our Memo to, and response from, Representative John Davis' office, sponsor of the bill. These documents provide support for amending the bill as we propose and highlight the following:

1. Harvesting rainwater, i.e., designing, building and maintaining systems that divert rainwater from roof tops (primarily) into cisterns and other storage containers, is not plumbing;
2. Plumbers make connections between rainwater harvesting system and public water systems following state law and local codes;
3. We ask that C.S.H.B. 2062 be amended as the author intended, evidenced by written correspondence from Rep. Davis' legislative assistant, Worth Farabee: Plumbers are to be designated as the trade that makes a connection between a rainwater harvesting system and a public water supply – amend the bill to reflect the author's intent;
4. There is no evidence for the need to redefine rainharvesting as proposed in this bill or designate any trade or profession as the appropriate person to design, build and/or maintain rainwater harvesting systems;
5. Think of an above-the-ground 500 gallon plastic swimming pool with an internal pump – a pump-driven "cistern," of a sort. Do we require a Master Plumber to install above-ground plastic recreational swimming pools? Of course not. And we shouldn't.

We want you to know we regularly employ Master Plumbers to connect our systems to public water supplies. We support and require installation of backflow prevention devices ("RPZ's," air gaps) to protect the public water supply. Everyone we know in the rainwater industry agrees.

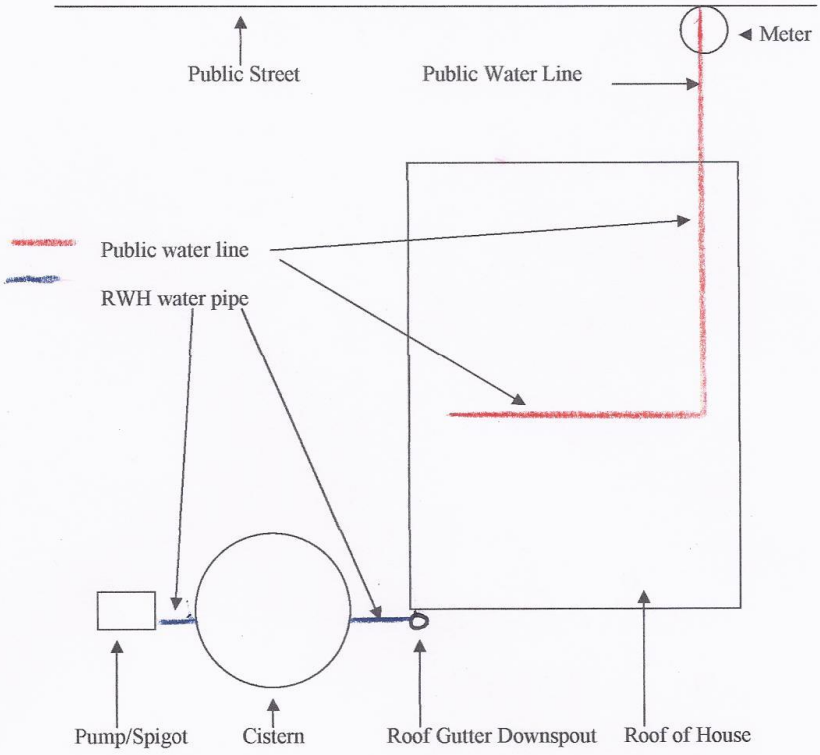
We look forward to working with you to help support rainwater harvesting across Texas and making it an important part of solving our state's growing need for water.

Sincerely

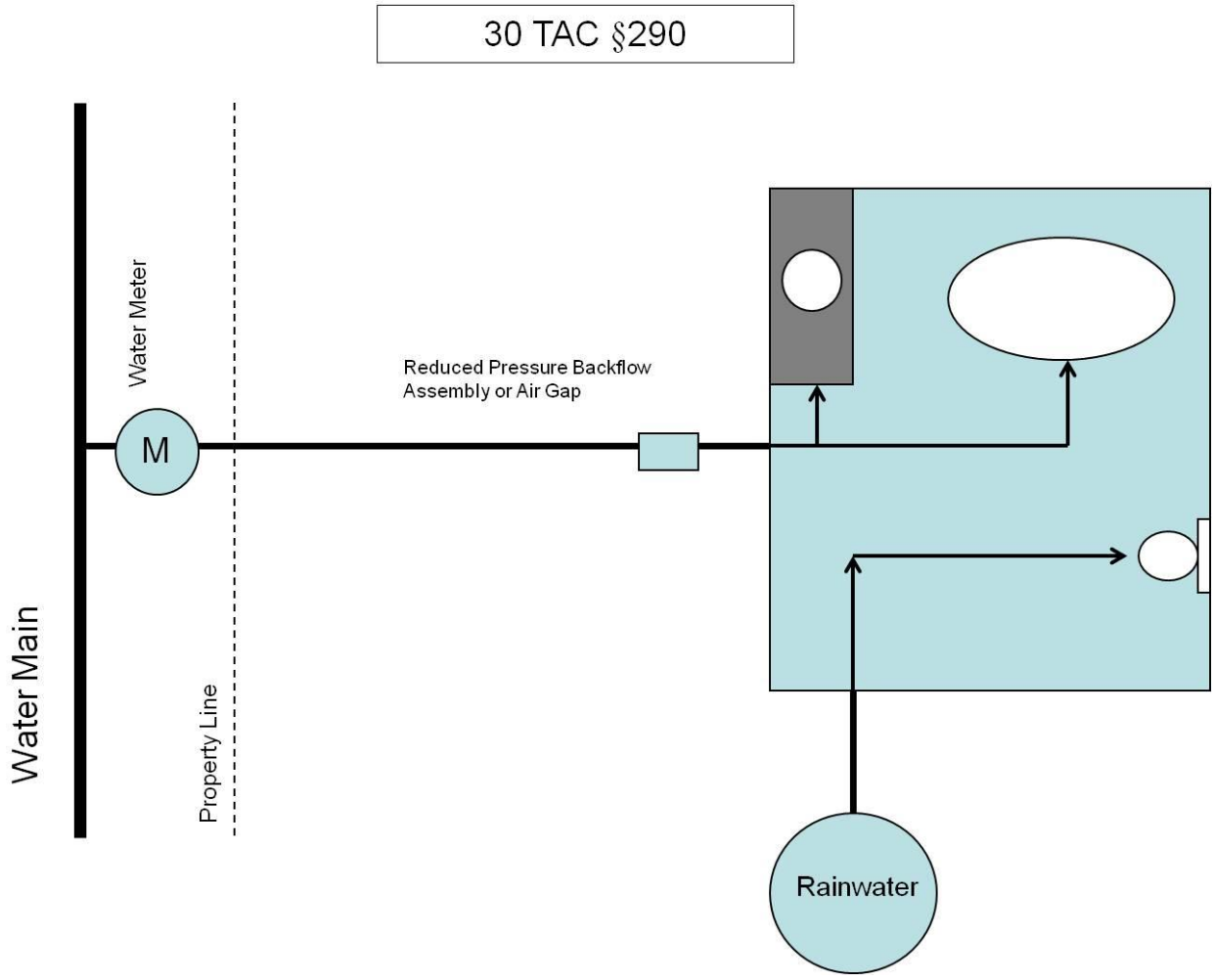
Scott O. Shaffer
Partner, Texas Water Savers Co.
La Grange, Texas

# A Typical Rainwater Harvesting System Built for Landscaping

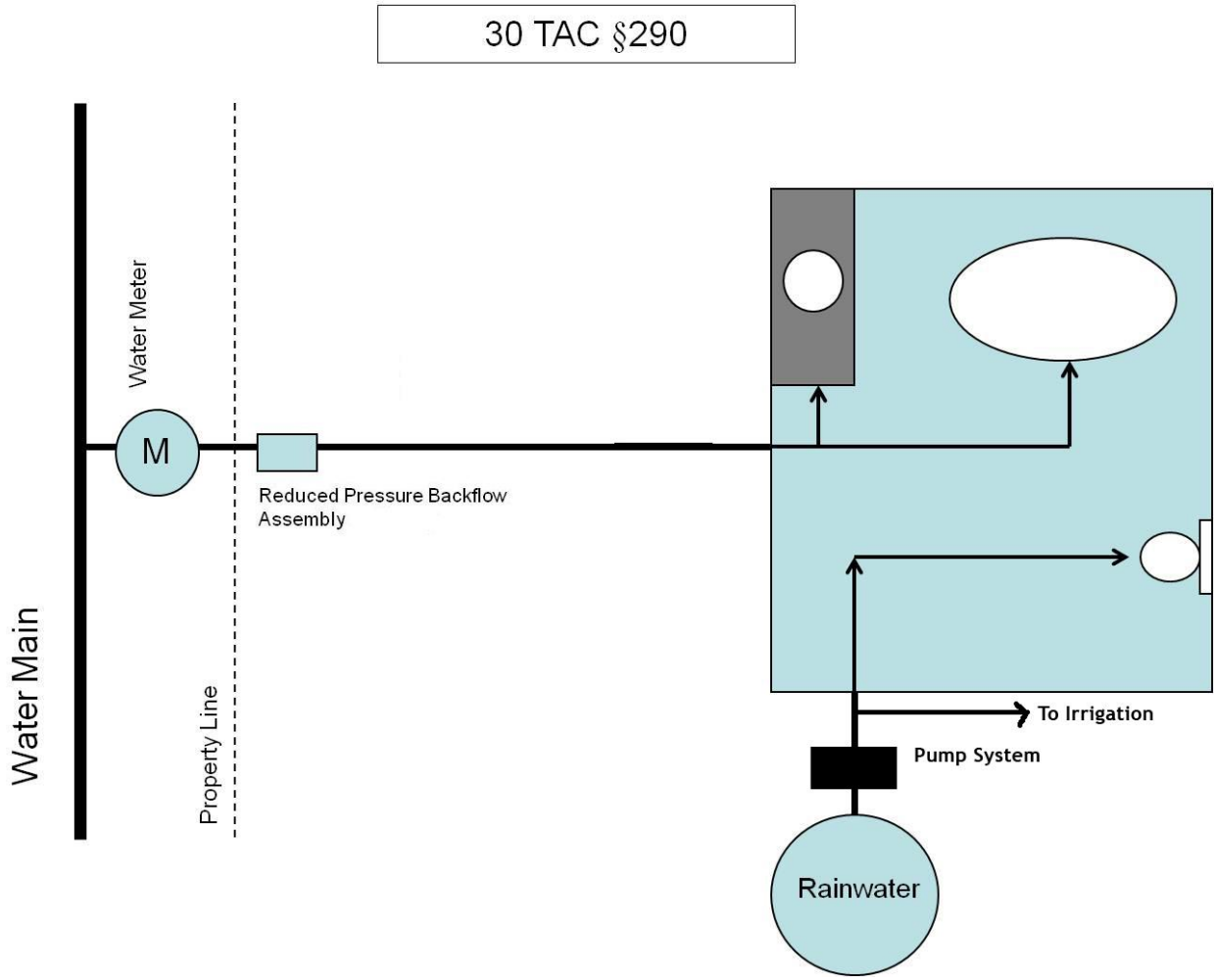
## No Connection to Public Water System




Rainwater hits the roof, goes into gutter, drops through gutter adapter into downspout, fills PVC pipe connecting gutter downspout to cistern inlet. Cistern is connected to pump. Turn on the spigot at pump and use the cistern water.
There is no connection to the public water line.

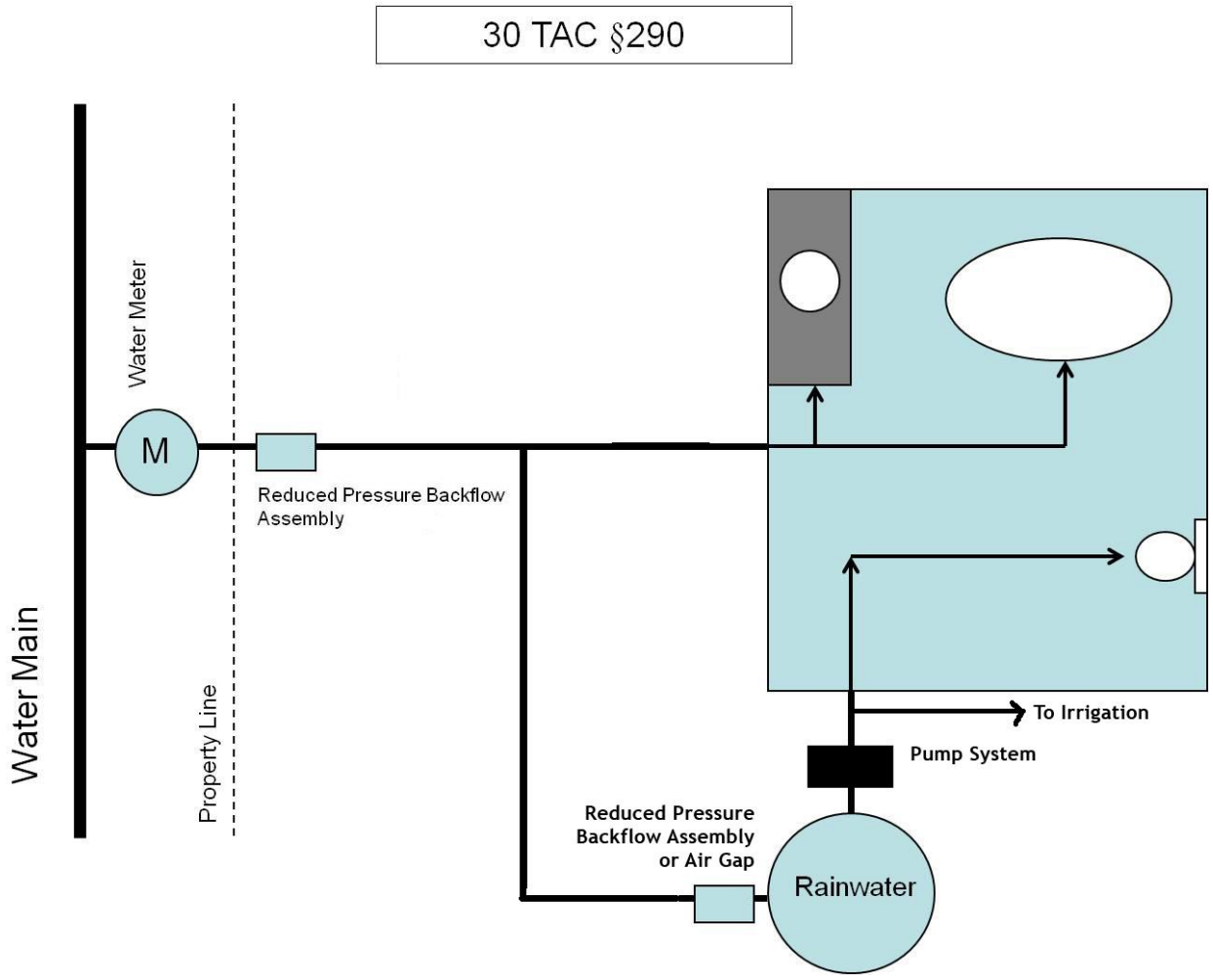



**A Rainwater Harvesting System Built for Toilet Flushing – No Connection to PWS**



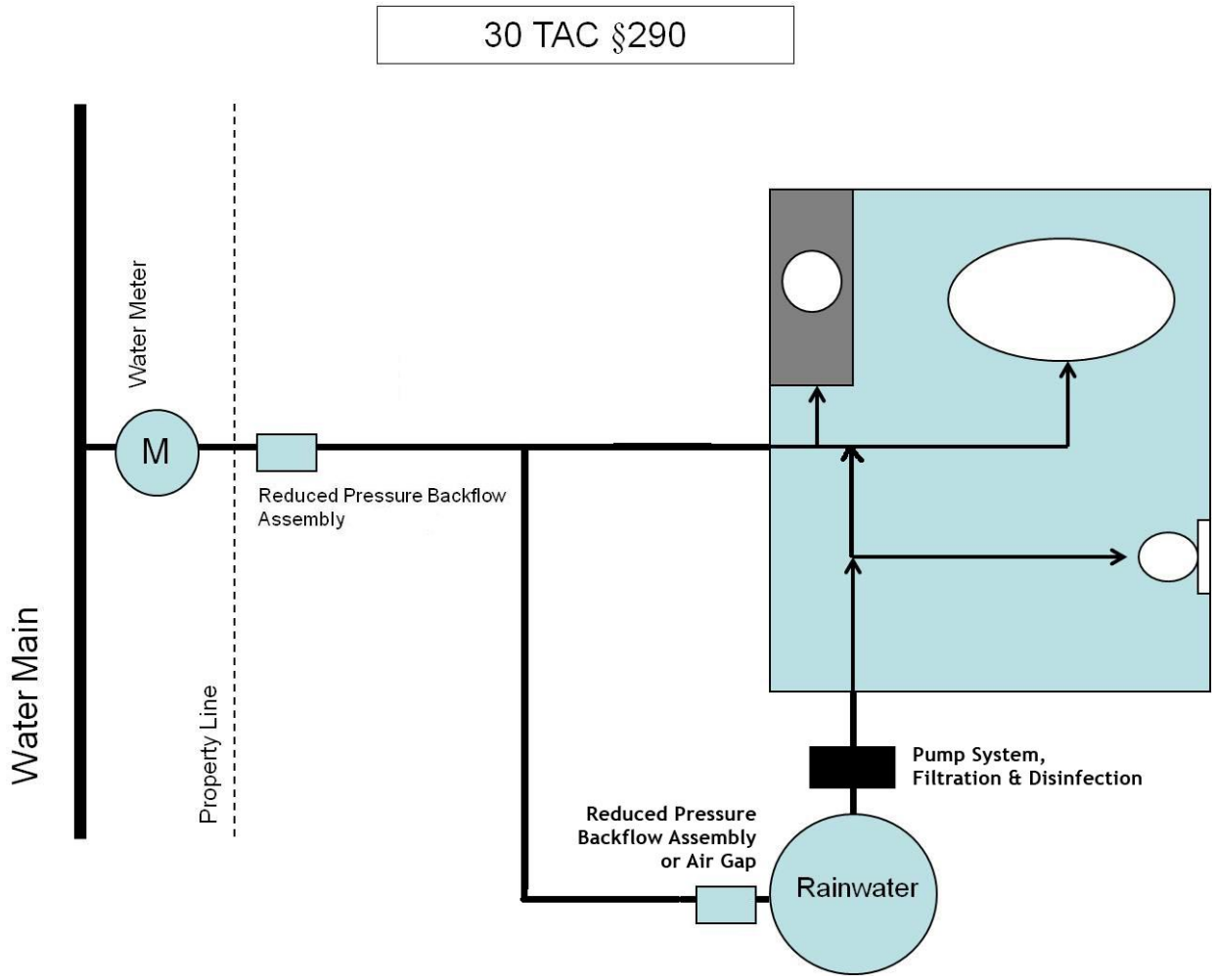

**A Rainwater Harvesting System Built for Toilet Flushing and Landscape Irrigation**
**No Connection to PWS**

**Current with Backup:**



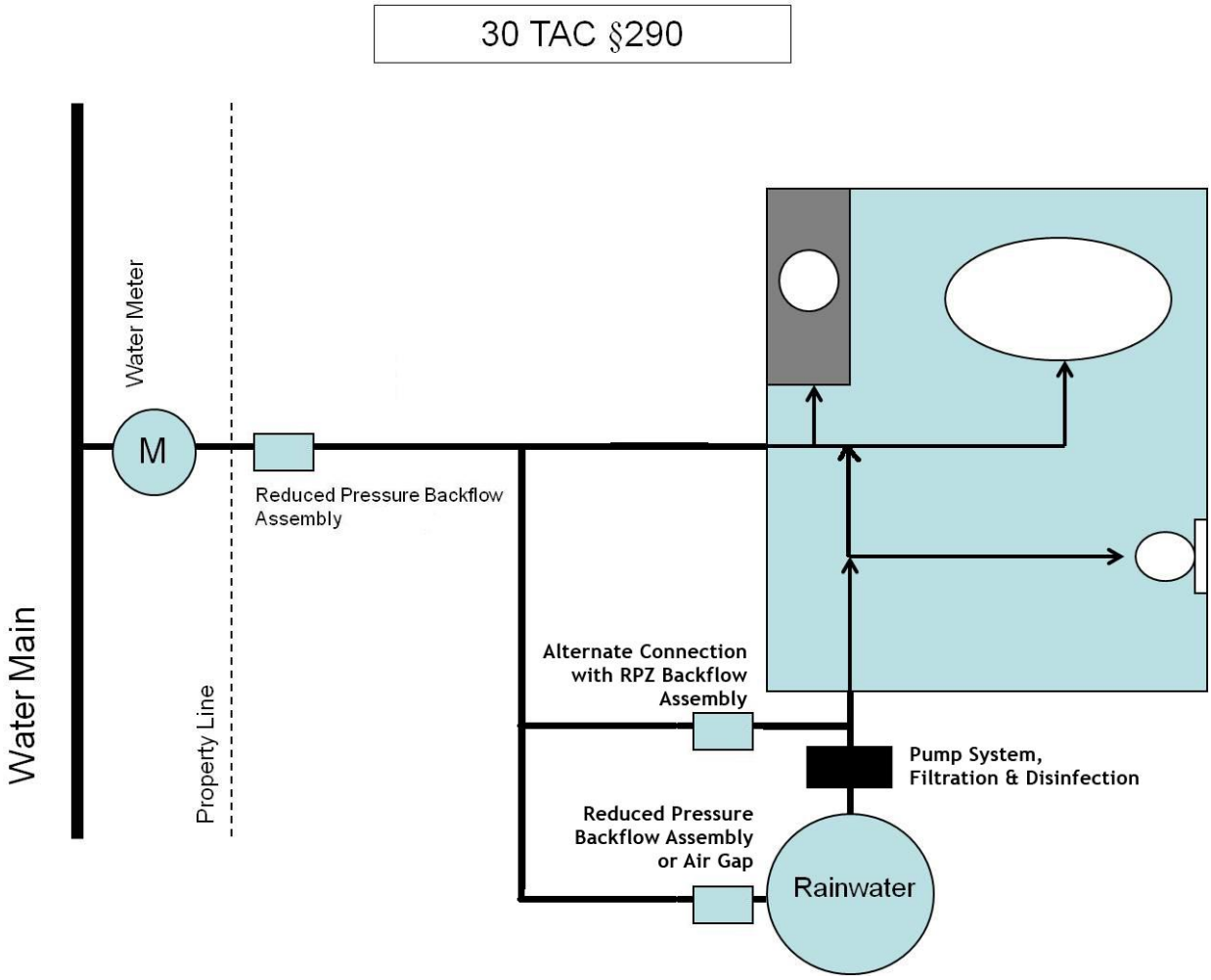

**A Rainwater System Built With a Municipal Back-Up**

**For Potable:**




**A Rainwater Harvesting System Built for Potable Use Connected to PWS**

## Potable with alternative back-up service connection



## Tasks involved with the installation of a rainwater harvesting system

- Roof gutter installation
- Building or construction of aboveground or underground rainwater tank
- Offload aboveground or underground rainwater tank, that come in one piece, into position which may involve removing homeowner fences, the use of a crane, and other issues related to moving these large tanks
- Installation of PVC pipe from gutter outlets to tank connection
- Installation of specialty items to ensure the integrity of the rainwater harvesting system and quality of the harvested rainwater
- Leveling area where aboveground rainwater tank will be installed
- Installing and compacting a base material for the aboveground rainwater tank to rest on
- Installation of small retaining walls if location of aboveground rainwater tank needs to be leveled higher than a few feet
- Removing and replacing landscape and hardscape that may need to be removed to facilitate the installation of system components
- Designing, sizing, and installing pump system to supply required demand for irrigation and/or potable water supply
- Designing and installing system to control a make-up water supply to rainwater system which involves multiple components inside the tank
- Construction or installation of pump enclosure to protect pump system

## Tasks involved in the "servicing" or rainwater harvesting equipment or system

- Getting inside a rainwater tank to provide a tank cleaning
- Cleaning out the gutters that collect rainwater into the system
- Cleaning the other rainwater harvesting equipment inside the system
- Troubleshooting the various issues that arise during the operation of these systems
- Replacing components of the water treatment system used to create potable water

Rainwater harvesting systems come in many different forms and styles. Plumbers are used to providing work that has to pass certain code regulations so it has to be performed in a certain way with certain materials. Therefore, plumbers may not be equipped with educating homeowners about rainwater harvesting systems which may include countless consultations and correspondence time as you walk these homeowners through all of the options available to them for their rainwater harvesting systems.

Designing and installing rainwater harvesting systems is more geared to a general contractor since it involves many different types of trade subcontractors in order to create a complete rainwater harvesting system.

***Are these tasks mentioned above involved in the installation, repair, and service of a rainwater harvesting system an appropriate use of a plumber's training and expertise?***

**COMPARISON OF ORIGINAL AND OUR AMENDED SUBSTITUTE**

Header introduction for our "Amended Substitute:"

**When a rainwater harvesting system is connected to a public water system, a Master Plumber, Journeyman Plumber or Water Treatment Specialist must make the connection.**

| INTRODUCED | **AMENDED SUBSTITUTE** |
|---|---|
| SECTION 1. Section 1301.002, Occupations Code, is amended by amending Subdivisions (7), (11), and (12) and adding Subdivision (8-a) to read as follows: | SECTION 1. Section 1301.002, Occupations Code, is amended by amending Subdivisions (7), (11), and (12) and adding Subdivision (8-a) to read as follows: |
| (7) "Plumbing" means: | (7) "Plumbing" means: |
| (A) a fixture, appurtenance, appliance, or piping, including a disposal system, used to: | (A) a fixture, appurtenance, appliance, or piping, including a disposal system, used to: |
| (i) supply, distribute, circulate, or recirculate water, other liquid, or gas; or | (i) supply, distribute, circulate, or recirculate water, other liquid, or gas; or |
| (ii) eliminate sewage for a personal or domestic purpose; | (ii) eliminate sewage for a personal or domestic purpose; |
| (B) a fixture, appurtenance, appliance, or piping used outside a building to connect the building to: | (B) a fixture, appurtenance, appliance, or piping used outside a building to connect the building to: |
| (i) a supply of water, other liquid, medical gases and vacuum, or other gas on the premises; or | (i) a supply of water, other liquid, medical gases and vacuum, or other gas on the premises; or |
| (ii) the main in the street or alley or at the curb; | (ii) the main in the street or alley or at the curb; |
| (C) a fixture, appurtenance, appliance, or piping, including a drain or waste pipe, used to carry wastewater or sewage from or within a building to: | (C) a fixture, appurtenance, appliance, or piping, including a drain or waste pipe, used to carry wastewater or sewage from or within a building to: |
| (i) a sewer service lateral at the curb or in the street or alley; or | (i) a sewer service lateral at the curb or in the street or alley; or |
| (ii) a disposal or septic terminal that holds private or domestic sewage; [~~or~~] | (ii) a disposal or septic terminal that holds private or domestic sewage; [~~or~~] |
| (D) the installation, repair, service, or maintenance of a fixture, appurtenance, appliance, or piping described by Paragraph (A), (B), or (C)<u>; or</u> | (C) the installation, repair, service, or maintenance of a fixture, appurtenance, appliance, or piping described by Paragraph (A), (B), or (C)<u>.</u> |

| | |
|---|---|
| (E) the installation, repair, and service of equipment for rainwater harvesting. | **(E) deleted** |
| (8-a) "Rainwater harvesting" means the capture, diversion, storage, treatment, and distribution of rainwater from a roof structure for landscape irrigation, potable drinking water, or nonpotable use for a personal residence or domestic use. | **(8-a) deleted** |
| (11) "Water supply protection specialist" means a person who holds an endorsement issued by the board to engage in: | (11) "Water supply protection specialist" means a person who holds an endorsement issued by the board to engage in: |
| (A) customer service inspections, as defined by rule of the Texas Commission on Environmental Quality; and | (A) customer service inspections, as defined by rule of the Texas Commission on Environmental Quality; and |
| (B) the installation, service, and repair of plumbing associated with the treatment, use, and distribution use of rainwater to supply a plumbing fixture, appliance, or irrigation system. | (B) the installation, service, and repair of plumbing associated with **making the connection between a rainwater harvesting system and a public water supply.** |
| (12) "Water treatment" means a business conducted under contract that requires ability, experience, and skill in analyzing water to determine how to treat influent and effluent water to change or purify the water or to add or remove minerals, chemicals, or bacteria. | (12) "Water treatment" means a business conducted under contract that requires ability, experience, and skill in analyzing water to determine how to treat influent and effluent water to change or purify the water or to add or remove minerals, chemicals, or bacteria. **A Water Treatment Specialist is a person licensed by the Texas Commission on Environmental Quality.** |
| The term does not include treatment of rainwater or the repair of systems for rainwater harvesting. The term includes: | The **terms "water treatment" and "water treatment specialist" include treatment of rainwater or the repair of systems for rainwater harvesting; The term includes**: |

| | |
|---|---|
| (A) installing and servicing fixed or portable water treatment equipment in a public or private water treatment system; or<br>(B) making connections necessary to install a water treatment system. | (A) installing and servicing fixed or portable water treatment equipment in a public or private water treatment system; or<br>(B) making connections necessary to install a water treatment system **or potable rainharvesting system with connection to a public water supply.** |
| SECTION 2. Section 1301.053(a), Occupations Code, is amended. | SECTION 2. Same as introduced version. |
| SECTION 3. Section 1301.302, Occupations Code, is amended. | SECTION 3. Same as introduced version. |
| SECTION 4. Section 1301.303(a), Occupations Code, is amended. | SECTION 4. Same as introduced version. |
| SECTION 5. Section 1301.351, Occupations Code, is amended. | SECTION 5. Same as introduced version. |
| SECTION 6. Section 1301.357(e), Occupations Code, is amended. | SECTION 6. Same as introduced version. |
| No equivalent provision. | |

| | |
|---|---|
| SECTION 7. The changes in law made by this Act apply only to services performed on or after the effective date of this Act. Services performed before the effective date of this Act are governed by the law in effect on the date the services were performed, and the former law is continued in effect for that purpose. | SECTION 7. Sections 1301.551(c) and (g), Occupations Code, are amended to read as follows:<br>(c) A municipality that adopts an ordinance or bylaw under this section shall provide by ordinance or bylaw that a person must obtain a permit before the person performs plumbing, other than the repairing of leaks, the replacement of lavatory or kitchen faucets, the replacement of ballcocks or water control valves, the replacement of garbage disposals, or the replacement of water closets. The municipality may prescribe the terms on which the permit is issued.<br><br>(g) A responsible master plumber, plumbing contractor, or other person who is required to obtain a permit under this section is not required to pay a plumbing registration fee or administrative fee in a municipality or any other political subdivision. |
| SECTION 8. This Act takes effect September 1, 2013. | SECTION 8. Same as introduced version.<br><br>SECTION 9. Same as introduced version |

MEMO

DATE: April 22, 2013

TO: Worth Farabee

FROM: Scott O. Shaffer

RE: Interpretation of CSHB 2062 language – meaning & intent of author

The following is a summary of our conversation April 16 in your office and my understanding of the meaning of the language, and intent of the author, of the above reference bill.

HB 2062 and its substitute propose to change the Occupations Code (Section 1301.002) by changing the meaning of "plumbing."

My question yesterday was:

"What if the law as written today (*) were to pass, and the following happened, "the day after" passage:

1. A customer of Texas Water Savers Co. contracts with us to build a rainwater harvesting system ("rwh") on their property within the city limits of some Texas city. We install gutters, downspouts, PVC pipe from end of gutter downspout to cistern inlet bulkhead. We also install the cistern, PVC pipe from cistern to (electric) pump and water spigot with hose bib, at pump. When the customer turns on the spigot the pump pulls water from the cistern and pushes it out the end of water hose onto a tomato garden that is in the customer's backyard;
2. Assume that the customer decides several weeks later, after having his cistern water tested by Environmental Laboratory Services/LCRA, that the water quality in his cistern is so excellent that he wants to drink it. The customer then calls us to connect his rwh system to the public water line on his property;
3. I call a Master Plumber we know and work with and he makes the connection between the pump and the customer's public system water line, installing backflow prevention (and related) assemblies at the water meter and any other equipment required by TCEQ, state law and municipal building codes;

4. In this example, Texas Water Savers Co. built and installed the rainwater harvesting system under a contract with the homeowner. A Master Plumber connected that system to the public water supply;
5. Based on our conversation yesterday, I understand that what I have described above would be legal "the day after" H.B. No. 2062 (in its current form) became law.
6. Further, I understood that it was not the intent of the author of this bill to prohibit companies such as ours from building or installing rainwater harvesting systems, and/or requiring Texas Water Savers Co. to have Master Plumbers involved in such installations. The intent of the author is to require a Master Plumber make the connection between a rwh system and a public water supply system. The bill should not be interpreted nor is it the intent of the author to require a Master Plumber install rainwater harvesting systems connected to a public water system, i.e., Texas Water Savers Co. can install the rwh system and then call a Master Plumber to make the connection between the rwh system and the public water supply. Texas Water Savers Co. would have legally installed the rwh system in the example above.

(*) I understand that you have received proposed amendment language from landscape irrigators but that the suggested language/amendment by irrigators would not change any of the above with respect to rainwater harvesting system installers.

Email from Worth Farabee following receipt of MEMO

**Worth Farabee** 5:03 PM (13 minutes ago)

Mr. Shaffer,

I believe what you have described is correct. Let me know if you have any more questions regarding the bill.

Worth Farabee
Legislative Assistant
State Representative John E. Davis
District 129
Office: 512-463-0734
Fax: 512-463-0401
s.o.shaffer@gmail.com

**Sent:** Monday, April 22, 2013 4:54 PM

**COMPARISON OF ORIGINAL AND C.S.H.B. SUBSTITUTE**

While C.S.H.B. 2062 may differ from the original in minor or nonsubstantive ways, the following comparison is organized and highlighted in a manner that indicates the substantial differences between the introduced and committee substitute versions of the bill.

| INTRODUCED | HOUSE COMMITTEE SUBSTITUTE |
|---|---|
| SECTION 1. Section 1301.002, Occupations Code, is amended by amending Subdivisions (7), (11), and (12) and adding Subdivision (8-a) to read as follows: | SECTION 1. Section 1301.002, Occupations Code, is amended by amending Subdivisions (7), (11), and (12) and adding Subdivision (8-a) to read as follows: |
| (7) "Plumbing" means: | (7) "Plumbing" means: |
| (A) a fixture, appurtenance, appliance, or piping, including a disposal system, used to: | (A) a fixture, appurtenance, appliance, or piping, including a disposal system, used to: |
| (i) supply, distribute, circulate, or recirculate water, other liquid, or gas; or | (i) supply, distribute, circulate, or recirculate water, other liquid, or gas; or |
| (ii) eliminate sewage for a personal or domestic purpose; | (ii) eliminate sewage for a personal or domestic purpose; |
| (B) a fixture, appurtenance, appliance, or piping used outside a building to connect the building to: | (B) a fixture, appurtenance, appliance, or piping used outside a building to connect the building to: |
| (i) a supply of water, other liquid, medical gases and vacuum, or other gas on the premises; or | (i) a supply of water, other liquid, medical gases and vacuum, or other gas on the premises; or |
| (ii) the main in the street or alley or at the curb; | (ii) the main in the street or alley or at the curb; |
| (C) a fixture, appurtenance, appliance, or piping, including a drain or waste pipe, used to carry wastewater or sewage from or within a building to: | (C) a fixture, appurtenance, appliance, or piping, including a drain or waste pipe, used to carry wastewater or sewage from or within a building to: |
| (i) a sewer service lateral at the curb or in the street or alley; or | (i) a sewer service lateral at the curb or in the street or alley; or |
| (ii) a disposal or septic terminal that holds private or domestic sewage; [~~or~~] | (ii) a disposal or septic terminal that holds private or domestic sewage; [~~or~~] |
| (C) the installation, repair, service, or maintenance of a fixture, appurtenance, appliance, or piping described by Paragraph (A), (B), or (C)<u>; or</u> | (D) the installation, repair, service, or maintenance of a fixture, appurtenance, appliance, or piping described by Paragraph (A), (B), or (C)<u>; or</u> |

(E) the installation, repair, and service of equipment for rainwater harvesting.

(8-a) "Rainwater harvesting" means the capture, diversion, storage, treatment, and distribution of rainwater from a roof structure for landscape irrigation, potable drinking water,or nonpotable use for a personal residence or domestic use.

(11) "Water supply protection specialist" means a person who holds an endorsement issued by the board to engage in:

(A) customer service inspections, as defined by rule of the Texas Commission on Environmental Quality; and

(B) the installation, service, and repair of plumbing associated with the treatment, use,and distribution use of rainwater to supply a plumbing fixture, appliance, or irrigation system.

(12) "Water treatment" means a business conducted under contract that requires ability, experience, and skill in analyzing water to determine how to treat influent and effluent water to change or purify the water or to add or remove minerals, chemicals, or bacteria. The term does not include treatment of rainwater or the repair of systems for rainwater harvesting. The term includes:

(A) installing and servicing fixed or portable water treatment equipment in a public or private water treatment system; or

(B) making connections necessary to install a water treatment system.

SECTION 2. Section 1301.053(a), Occupations Code, is amended.

(E) the installation, repair, and service of equipment for rainwater harvesting.

(8-a) "Rainwater harvesting" means the capture, diversion, storage, treatment, and distribution of rainwater from a roof structure for potable drinking water for a personal residence or domestic use.

(11) "Water supply protection specialist" means a person who holds an endorsement issued by the board to engage in:

(A) customer service inspections, as defined by rule of the Texas Commission on Environmental Quality; and

(B) the installation, service, and repair of plumbing associated with the treatment, use,and distribution use of rainwater to supply a plumbing fixture, appliance, or irrigation system.

(12) "Water treatment" means a business conducted under contract that requires ability, experience, and skill in analyzing water to determine how to treat influent and effluent water to change or purify the water or to add or remove minerals, chemicals, or bacteria. The term does not include treatment of rainwater or the repair of systems for rainwater harvesting. The term includes:

(A) installing and servicing fixed or portable water treatment equipment in a public or private water treatment system; or

(B) making connections necessary to install a water treatment system.

SECTION 2. Same as introduced version.

| | |
|---|---|
| SECTION 3. Section 1301.302, Occupations Code, is amended. | SECTION 3. Same as introduced version. |
| SECTION 4. Section 1301.303(a), Occupations Code, is amended. | SECTION 4. Same as introduced version. |
| SECTION 5. Section 1301.351, Occupations Code, is amended. | SECTION 5. Same as introduced version. |
| SECTION 6. Section 1301.357(e), Occupations Code, is amended. | SECTION 6. Same as introduced version. |
| No equivalent provision. | SECTION 7. Sections 1301.551(c) and (g), Occupations Code, are amended to read as follows:<br>(c) A municipality that adopts an ordinance or bylaw under this section shall provide by ordinance or bylaw that a person must obtain a permit before the person performs plumbing, other than the repairing of leaks, the replacement of lavatory or kitchen faucets, the replacement of ballcocks or water control valves, the replacement of garbage disposals, or the replacement of water closets. The municipality may prescribe the terms on which the permit is issued.<br>(g) A responsible master plumber, plumbing contractor, or other person who is required to obtain a permit under this section is not required to pay a plumbing registration fee or administrative fee in a municipality or any other political subdivision. |

| | |
|---|---|
| | SECTION 8. Same as introduced version. |
| SECTION 8. This Act takes effect September 1, 2013. | SECTION 9. Same as introduced version |

During the 82nd session of the Texas Legislature, HB 3372 and SB 1073 were introduced and became law. For my purposes, these bills would seem to "begin the story" – both the introduced and enrolled versions of HB 3372 are shown below.

**HB 3372: INTRODUCED BILL**

82R13459 SMH-F

By: King of Zavala H.B. No. 3372

A BILL TO BE ENTITLED

AN ACT

relating to standards for a structure that is connected to a public water supply system and has a rainwater harvesting system.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 341.042(b), Health and Safety Code, is amended to read as follows:

(b) The commission by rule shall provide that if a structure is connected to a public water supply system and has a rainwater harvesting system for indoor use,[~~:~~

[~~(1)~~] the structure must have appropriate cross-connection safeguards[~~; and~~

[~~(2) the rainwater harvesting system may be used only for nonpotable indoor purposes~~].

SECTION 2. This Act takes effect September 1, 2011.

**HB 3372: ENROLLED VERSION**

H.B. No. 3372

AN ACT

relating to rainwater harvesting systems that are connected to public water supply systems.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 341.042, Health and Safety Code, is amended by amending Subsection (b) and adding Subsections (b-1), (b-2), (b-3), and (b-4) to read as follows:

(b) The commission by rule shall provide that if a structure is connected to a public water supply system and has a rainwater harvesting system for indoor use,[~~:~~

[~~(1)~~] the structure must have appropriate cross-connection safeguards[~~; and~~

[~~(2) the rainwater harvesting system may be used only for nonpotable indoor purposes~~].

(b-1) The commission shall work with the department to develop rules regarding the installation and maintenance of rainwater harvesting systems that are used for indoor potable purposes and connected to a public water supply system. The rules must contain criteria that are sufficient to ensure that:

(1) safe sanitary drinking water standards are met; and

(2) harvested rainwater does not come into communication with a public water supply system's drinking water at a location off of the property on which the rainwater harvesting system is located.

(b-2) A person who installs and maintains rainwater harvesting systems that are connected to a public water supply system and are used for potable purposes must be licensed by the Texas State Board of Plumbing Examiners as a master plumber or journeyman plumber and hold an endorsement issued by the board as a water supply protection specialist.

(b-3) A person who intends to connect a rainwater harvesting system to a public water supply system for use for potable purposes must give written notice of that intention to the municipality in which the rainwater harvesting system is located or the owner or operator of the public water supply system before connecting the rainwater harvesting system to the public water supply system.

(b-4) A municipally owned water or wastewater utility, a municipality, or the owner or operator of a public water supply system may not be held liable for any adverse health effects allegedly caused by the consumption of water collected by a rainwater harvesting system that is connected to a public water supply system and is used for potable purposes if the municipally owned water or wastewater utility, municipality, or public water supply system is in compliance with the sanitary standards for drinking water applicable to the municipally owned water or wastewater utility, municipality, or public water supply system.

SECTION 2. This Act takes effect September 1, 2011.