The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts the amendment to §285.80; the repeal of §285.81; and new §285.81.

The amendment to §285.80 and new §285.81 are adopted *with changes* to the proposed text as published in the July 22, 2016, issue of the *Texas Register* (41 TexReg 5377) and, therefore, will be republished. The repeal of §285.81 is adopted *without change* and will not be republished.

Background and Summary of the Factual Basis for the Adopted Rules

House Bill 1902 (HB 1902 or bill), 84th Texas Legislature (2015), amended Texas Health and Safety Code (THSC), Chapters 341 and 366, and Texas Water Code, Chapter 26, in relation to the use of graywater and alternative onsite water. The bill requires TCEQ to develop standards to allow the reuse of graywater for toilet and urinal flushing.

Additionally, the bill creates a new regulatory classification for "alternative onsite water" which the bill defines as "rainwater, air-conditioning condensate, foundation drain water, storm water, cooling tower blowdown, swimming pool backwash and drain water, reverse osmosis reject water, or any other source of water considered appropriate by the commission." The bill directs TCEQ to develop similar standards for the reuse of this new source of water similar to graywater.

The bill provides authority to TCEQ to adopt and implement rules for the inspection and annual testing of graywater and alternative onsite water systems.

The bill allows an adjustment in the drainfield size of an on-site sewage facility (OSSF) if used in conjunction with a graywater reuse system.

Lastly, the bill requires TCEQ to develop a regulatory guidance manual to explain the graywater and alternative onsite water regulations.

The bill requires amendments to 30 TAC Chapter 210, Use of Reclaimed Water, and Chapter 285. The adopted rules allow for a reduction in the OSSF drainfield size if the OSSF is used in conjunction with a graywater reuse system, move all graywater reuse to Chapter 210, authorize toilet and urinal flushing as an additional reuse of graywater, authorize the reuse of alternative onsite water, establish uses of and treatment standards for alternative onsite water similar to graywater, incorporate nationally recognized treatment standards for graywater and alternative onsite water when used for toilet and urinal flushing, and revise bacteria limits from fecal coliform to *Escherichia coli (E. coli)*.

HB 1902 retains the existing prohibition on the commission requiring a permit for the residential use of less than 400 gallons per day of graywater and adds alternative onsite water to the permit prohibition.

Because TCEQ does not issue permits for graywater and alternative onsite water reuse systems, the adopted rules do not include an inspection or testing program for these systems.

A regulatory guidance manual to explain the graywater and alternative onsite water regulations will be developed after adoption of this rulemaking.

A corresponding rulemaking is published in this issue of the *Texas Register* concerning Chapter 210, Subchapter F, Use of Graywater and Alternative Onsite Water.

Section by Section Discussion

§285.80, General Requirements

The adopted rule adds language to use terms for graywater reuse systems and combined reuse systems that are consistent with the adopted amendments to Chapter 210, Subchapter F, in a concurrent rulemaking.

Adopted §285.80(b) adds a requirement that a graywater reuse system must also comply with Chapter 210, Subchapter F since the rules for those systems have been moved to that chapter.

The adopted amendment moves former §285.81(g) to §285.80(c).

Adopted §285.80(d) requires existing graywater systems to continue to comply with the rules as the rules existed when the graywater system installation was completed. Any alterations to existing graywater systems must meet the requirements of the current rules.

Adopted §285.80(e) prohibits a reduction to OSSFs when using graywater reuse systems unless the OSSF meets the requirements of §285.81. No reduction in the size of the OSSF will be allowed when using a graywater reuse system unless the OSSF meets all of the conditions and requirements of §285.81.

Adopted §285.80(f) allows only OSSFs permitted for graywater to be connected to a graywater or combined reuse system. The adopted rule allows a combined reuse system to be connected to an OSSF permitted for graywater only and requires the alternative onsite water to be diverted prior to the connection. The adopted rule prohibits an alternative water reuse system from being connected to an OSSF. The adopted rule provides the piping requirements for connecting graywater to an OSSF.

§285.81, Requirements and Conditions for Potentially Reducing the Size of an OSSF Disposal System for a Single Family Residence with a Graywater Reuse System or a Combined Reuse System.

The commission repealed §285.81 and replaced it with adopted new §285.81. The requirements of the repealed section are being incorporated into Chapter 210, Subchapter F, in a concurrent rulemaking. In order to provide clear guidance to property owners and homeowners with OSSFs, the adopted rule in the new §285.81 provides additional clarification on when and how requirements apply.

Adopted new §285.81 is titled, "Requirements and Conditions for Potentially Reducing

the Size of an OSSF Disposal System for a Single Family Residence with a Graywater Reuse System or a Combined Reuse System." Adopted new §285.81 provides technical requirements for the design, permitting, and operation of OSSFs serving single family residences which have a reduction based on the presence of a graywater reuse system or a combined reuse system. The adopted rule is limited to single family residences based on the limitations of statutory language in THSC, §366.012(a)(2)(B). Additionally, from a technical perspective, graywater generation proportions from a residence are relatively well understood and defined. However, non-residence proportions of graywater are not as well defined and are subject to varying patterns of wastewater generation over time as building activity changes. This uncertain nature of present and future graywater generation in non-residences does not lend itself to OSSF reductions.

Adopted new §285.81(a) clarifies that graywater and combined reuse systems are authorized without a permit. However, OSSFs which are reduced based on the presence of a graywater or combined reuse system require a permit and submission of planning materials. This subsection also clarifies that this section and the associated OSSF reduction only applies to single family residences.

Adopted new §285.81(b) provides the potential allowable sizing reduction to the OSSF disposal field. The reductions outlined in Figure: 30 TAC §285.81(b) were estimated using data contained in Table 4.2 of *Design Manual, On-Site Wastewater Treatment and Disposal Systems (EPA/625/1-80/012) October 1980.*

Adopted new §285.81(c) provides that a qualified professional plumber is responsible for documenting which sewage sources will be entering the OSSF. The evaluation of the plumbing should occur after the plumbing is installed.

Adopted new §285.81(d) and Figure: 30 TAC §285.81(d) provide the design organic strength of the wastewater entering the OSSF. The numbers are based on the assumptions that sewage containing all blackwater and graywater sources within a residence will be 300 milligrams per liter five-day biochemical oxygen demand (mg/l BOD_5) and all graywater sources have no BOD_5 concentration.

Adopted new §285.81(e) and (f) establish the qualifications needed to design OSSFs in this section and the BOD_5 effluent quality that must be achieved by the reduced OSSF. The requirements are consistent with previously adopted sections of Chapter 285.

Adopted new §285.81(g) requires property owners to set aside an area for future OSSF expansion should the property owner abandon the graywater or combined reuse system at a later date or if required by the OSSF permitting authority to expand the OSSF. The area must meet the setbacks required by §285.91(10) and shall not be used for surface improvements.

Adopted new §285.81(h) prohibits property owners from applying graywater or alternative onsite water to the surface of their reduced OSSF disposal field. This action can overload the OSSF disposal area.

Adopted new §285.81(i) prohibits any physical connection between the graywater or combined reuse system and the OSSF since the OSSF is not designed to receive graywater.

Adopted new §285.81(j) requires three days of graywater storage when a graywater or combined reuse system is used in combination with a reduced OSSF. The requirement for storage is necessary so the property owner will not apply graywater during saturated landscape conditions. A graywater or combined reuse system that is not used in combination with a reduced OSSF is not subject to the requirement for three days of storage.

Adopted new §285.81(k) provides a mechanism to alert buyers, upon transfer of the property, of the limitations of the OSSF and their responsibilities for operating the OSSF and the graywater or combined reuse system.

Adopted new §285.81(l) requires that a property owner convicted or found in violation of any statute related to graywater or public health nuisance, and the system in question is not properly repaired in a timely manner, shall expand their OSSF and have it permitted to dispose of graywater.

Final Regulatory Impact Analysis Determination

TCEQ reviewed the adopted rulemaking in consideration of the regulatory analysis of major environmental rules required by Texas Government Code, §2001.0225, and

determined that the rulemaking is not subject to Texas Government Code, §2001.0225(a) because it does not meet the definition of a "major environmental rule" as defined in Texas Government Code, §2001.0225(g)(3). The following is a summary of that review.

Texas Government Code, §2001.0225 applies to a "major environmental rule" adopted by a state agency, the result of which is to exceed standards set by federal law, exceed express requirements of state law, exceed requirements of delegation agreements between the state and the federal government to implement a state and federal program, or adopt a rule solely under the general powers of the agency instead of under a specific state law. A "major environmental rule" is a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

As the Author's/Sponsor's Statement of Intent makes clear, the 84th Texas Legislature, 2015, enacted HB 1902 with the aim of lessening Texas' demand for freshwater resources by encouraging and expanding the allowable uses of graywater and other recycled water. By updating decades-old statutory provisions governing graywater disposal and reuse with new technologies and systems that expand the possibilities for safe reuse of graywater on commercial, industrial, and domestic properties, the statutory changes from HB 1902 would ideally result in less demand for freshwater resources for water needs that do not require freshwater standards. More specifically, the Statement of Intent

articulates that "by clarifying the existing {Texas Health and Safety Code (THSC)} standards and expanding the scope and uses of graywater and alternative onsite water {and ensuring that the Texas Water Code conforms to these changes}, C.S.H.B. 1902 could act as another part of the solution to Texas' water challenges."

To encourage the use of graywater systems, which helps to prevent a health and safety crisis due to a lack of water for drinking and other essential purposes, HB 1902 amends the THSC to direct TCEQ to adopt rules that allow for an adjustment in the size of a drainfield of an OSSF if used in conjunction with a graywater reuse system. Additionally, the adopted rulemaking adds language to §285.80 for terms for graywater reuse systems and combined reuse systems that are consistent with adopted amendments in a concurrent rulemaking involving Chapter 210, Subchapter F. As part of the same rulemaking, the commission repealed §285.81 and replaced it with a new §285.81. The requirements of the repealed section are being incorporated into Chapter 210, Subchapter F, in a concurrent rulemaking.

Therefore, the specific intent of the adopted rulemaking, which amends and repeals TCEQ rules, is to implement the legislative amendments in HB 1902, which eliminates duplicate provisions with other chapters in the title, and requires the commission to adopt rules to allow an adjustment in the size of a drainfield of an OSSF if used in conjunction with a graywater or combined reuse system. All of which aim to prevent a health and safety crisis due to a lack of water for drinking and other essential purposes. The adopted rulemaking does not adversely affect, in a material way, the economy, a

section of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. Accordingly, the commission concludes that the adopted rulemaking does not meet the definition of a "major environmental rule."

Even if this rulemaking was a "major environmental rule," this rulemaking meets none of the criteria in Texas Government Code, §2001.0225, for the requirement to prepare a full Regulatory Impact Analysis. First, this rulemaking is not governed by federal law. Second, it does not exceed state law but rather creates new minimum standards and corresponding processes under state law to ensure efficient regulatory oversight, while comprehensively protecting the state's natural resources. Third, it does not come under a delegation agreement or contract with a federal program, and finally, it is not being adopted under the TCEQ's general rulemaking authority. This rulemaking is being adopted under a specific piece of state legislation from HB 1902, Texas Legislature, 2015, which directs TCEQ to undertake this rulemaking in an effort to reasonably fulfill an obligation mandated by state law to implement the OSSF program under THSC, Chapter 366.

Therefore, the commission does not adopt the rule solely under the commission's general powers.

The commission invited public comment regarding the Draft Regulatory Impact Analysis Determination during the public comment period. No comments were received regarding

the regulatory impact analysis determination.

Takings Impact Assessment

TCEQ evaluated the adopted rulemaking and performed an analysis of whether it constitutes a taking under Texas Government Code, Chapter 2007, which applies to governmental actions which affect private property. The following is a summary of that analysis.

The specific purpose of the adopted rulemaking is to implement the legislative amendments in HB 1902, which eliminates duplicate provisions with other chapters in 30 TAC and directs the commission to adopt rules to allow an adjustment in the size of a drainfield of an OSSF if used in conjunction with a graywater or combined reuse system. All of which aim to prevent a health and safety crisis due to a lack of water for drinking and other essential purposes. The adopted rulemaking substantially advances this stated purpose by adopting language in amended Chapter 285 to expand and encourage the allowable indoor and outdoor use and reuse of treated graywater and alternative onsite water by allowing for a reduction in the size of an OSSF's drainfield.

Promulgation and enforcement of the adopted rules are not a statutory or constitutional taking of private real property because, as the commission's analysis indicates, Texas Government Code, Chapter 2007, does not apply to these adopted rules because the rules do not impact private real property. Additionally, the public has access to vast quantities of graywater as the public themselves are the producers of their own graywater.

Specifically, the adopted rulemaking does not apply to or affect any landowner's rights in any private real property because it does not burden (constitutionally), restrict, or limit any landowner's right to real property or reduce any property's value by 25% or more beyond that which would otherwise exist in the absence of the regulations. For graywater, there are no real property rights that have been granted for use of an individual's own graywater. These actions will not affect or burden private real property rights because the graywater and alternative onsite water are generated onsite and used onsite by the same individual.

Even if there were real property rights issued for graywater produced by the public, the commission's analysis indicates that Texas Government Code, Chapter 2007, does not apply to these adopted rules. Texas Government Code, §2007.003(b)(4), (11)(B), and (13)(A) - (C) state that the chapter does not apply to governmental actions reasonably taken to fulfill an obligation mandated by state law, to regulate OSSF, to respond a real and substantial threat to public health and safety, to significantly advance the health and safety purpose, and to not impose a greater burden than is necessary to achieve the health and safety purpose. All of the above exemptions apply to the adopted rulemaking. This rulemaking is adopted pursuant to the specific requirements of THSC, Chapter 366, which requires the commission to adopt rules to protect the environment and the health and safety of Texas citizens by encouraging use of graywater or combined reuse systems by amending the OSSF regulations to allow for a reduction in the size of an OSSF's drainfield. The adopted rulemaking encourages the use of graywater or combined reuse systems to respond to a real and substantial threat to public health and safety in the

form of a lack of water for drinking and other essential purposes and encouraging use of graywater or combined reuse systems advances a health and safety purpose by making efforts to address Texas' water challenges. Finally, the adopted rulemaking imposes no greater burden than is necessary to achieve the health and safety purpose, the adopted rules are similar to the predecessor rules for OSSFs and do not establish a greater burden for most types of systems. Because this is an action that is taken in response to a real and substantial threat to public health and safety; is designed to significantly advance the health and safety purpose; and does not impose a greater burden than is necessary to achieve the health and safety purpose, this action is exempt according to the provisions of Texas Government Code, §2007.003. Lack of water for drinking and other essential purposes would be a health and safety crisis. This rulemaking could help to lessen the demand for freshwater resources for water needs that do not require freshwater standards, resulting in more drinking water and water for essential purposes.

Consistency with the Coastal Management Program

The commission reviewed the adopted rulemaking and found that the rulemaking is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 *et seq.*, and therefore must be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the adopted rules in accordance with Coastal Coordination Act Implementation Rules, 31 TAC §505.22 and found the adopted rulemaking is consistent with the applicable CMP goals and policies.

The applicable goals of the CMP are: to protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas; to ensure sound management of all coastal resources by allowing for compatible economic development and multiple human uses of the coastal zone; to ensure and enhance planned public access to and enjoyment of the coastal zone in a manner that is compatible with private property rights and other uses of the coastal zone; and to balance these competing interests.

The specific CMP policies applicable to these adopted rules include Nonpoint Source Water Pollution and require, under the THSC, Chapter 366 (governing on-site sewage disposal systems) that on-site disposal systems be located, designed, operated, inspected, and maintained so as to prevent releases of pollutants that may adversely affect coastal waters. The adopted rules ensure that OSSFs will perform properly when receiving only blackwater, and therefore, the rules are consistent with the CMP policies.

Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the adopted rules are consistent with these CMP goals and policies, because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas, and because the adopted rules do not relax current treatment or disposal standards.

The commission invited public comment regarding the consistency with the CMP during the public comment period. No comments were received regarding the CMP.

Public Comment

The commission held a public hearing on August 16, 2016. The comment period closed on August 22, 2016. The commission received comments prior to the public comment period and related communications during the public comment period from Texas State Representative Donna Howard (Representative Howard) and Texas State Representative Paul D. Workman (Representative Workman). The commission received comments during the public comment period from the City of Austin (COA); Harris County, Texas (Harris County); League of Women Voters of Texas (LWV); Lower Colorado River Authority (LCRA); Septic Systems Express; Texas On-Site Wastewater Association (TOWA); Texas Septic Systems Council; and Water ReNu, LLC (Water ReNu).

Ten commenters were in support of the rulemaking, no commenters were against the rulemaking, and the commenters suggested changes.

Response to Comments

General Comments

Comment

LWV supported the timely development of the rules, the inclusion of other onsite sources of water, and provision for a manual explaining the rules to the public.

Response

The commission acknowledges this comment.

Comment

Representatives Howard and Workman, reiterating some of the suggested rule changes from the COA, commented that the proposed rules should not allow graywater systems to overflow to OSSF systems without permission from the OSSF permitting authority.

Response

The commission agrees with this comment. Adopted §285.80(f) and §285.81(i) properly address this comment. No change was made in response to this comment.

Comment

Harris County commented that the proposed changes to Chapter 285 do not address OSSF design and operation for commercial facilities, industrial facilities, institutions, or agricultural facilities that elect to reuse graywater under Chapter 210. The commenter stated that if a commercial system elects to reuse graywater, the amendments in Chapter 285 fail to require design adjustments to suit the higher strength wastewater (there is no requirement for design for higher strength wastewater as in Chapter 285, Figure: 30 TAC §285.81(d) (Table II, Adjusted Organic Strength)). The commenter also stated that this type of oversight leaves a regulatory gap in OSSF system design, which could impact water quality and OSSF operation. Harris County recommended adding language for commercial facilities, industrial facilities, institutions, or agricultural facilities that will hold these facilities to the same standard as residential systems.

Response

The commission disagrees with this comment. THSC, §366.012(a)(2) addresses graywater separation of graywater for single family residences and allows for an adjustment of the OSSF for single family residences that have separated their graywater. Therefore, the OSSF for non-single family residences must be sized for the inclusion of graywater. Adopted §285.81(a) was amended to clarify that the potential reduction outlined in §285.81 only applies to single family residences.

Comment

TOWA is concerned that the potential "new program," and the proposed move of the graywater section from Chapter 285 to Chapter 210 by repealing §285.81, has the potential of eliminating a licensed group of professionals who are already performing inspection and testing of onsite wastewater treatment systems of tens of thousands of Texas residential and commercial properties. The commenter noted that creating a new program has the potential to cause an unnecessary increase in cost to users of graywater and alternative onsite water systems.

Response

The commission partially agrees with this comment. The commission is not proposing or adopting a testing and inspection program through this rulemaking. If a testing program will be required, then rules would need to be amended in a separate rulemaking. No change was made in response to this comment.

Comment

TOWA commented that the program could benefit immediately from the experience and training already existing in Chapter 285, which also keeps a workforce who is already going to these onsite locations performing inspections, collecting samples for testing of water quality eligible for a new license, if one is created, working. Therefore, TOWA commented that should testing of graywater or alternative onsite water systems be required by TCEQ, the skills possessed by trained OSSF licensees would be a natural fit.

Response

The commission partially agrees with this comment. The commission is not proposing or adopting a testing and inspection program through this rulemaking. If a testing program will be required, then rules would need to be amended in a separate rulemaking. No change was made in response to this comment.

§285.80

Comment

Harris County commented that the requirement in §285.80(c) that reuse does not "damage the quality of surface water or groundwater" is vague and potentially requires a higher burden of proof. Harris County recommended revising "damage" to "impact."

Response

The commission partially agrees with this comment. Although "damage" may require

a higher burden of proof, the adopted rule matches THSC, §341.039(b). No change was made in response to this comment.

Comment

COA commented that §285.80(e) should be modified to read: "No reduction in the size of the on-site sewage facility (OSSF) will be allowed when using a graywater reuse system unless the OSSF meets all of the conditions and requirements of §285.81 of this title."

Response

The commission agrees with this comment. In response to this comment, adopted §285.80(e) was amended to clarify that all of the conditions and requirements of §285.81 must be met in order to reduce an OSSF when using a graywater reuse system.

§285.81

Comment

COA commented the word "Reduction" should be replaced with the word "Sizing" in the title for §285.81 so that the title reads: "OSSF Sizing for Single Family Residences with a Graywater Reuse System or a Combined Reuse System."

Response

The commission agrees with this comment. In response to this comment, the title of adopted §285.81 was revised to read, "Requirements and Conditions for Potentially

Reducing the Size of an OSSF Disposal System for a Single Family Residence with a Graywater Reuse System or a Combine Reuse System. "

Comment

COA recommended clarifying that reductions in OSSF sizing are not always required, the word "Potential" should be inserted before “Percent Reduction” in the title and Table Header of Table I in §285.81(b).

Response

The commission agrees with this comment and revised adopted Figure: 30 TAC §285.81(b) as recommended.

Comment

Representatives Howard and Workman, reiterating some of the suggested rule changes from the COA, commented that the proposed rules should not prescribe "reductions" in size of an OSSF if a graywater system is also going to be used. The commenters noted that HB 1902, Section 2, allows TCEQ to "adjust" the size of an OSSF, since the OSSF might actually need to be larger, not smaller, if a graywater system will also be used (given the higher concentration of the effluent reaching the OSSF system).

Response

The commission agrees with this comment. In response to a separate comment, the title of adopted §285.81 was amended to clarify this was a sizing adjustment rather

than "OSSF Reduction" and adopted §285.81(a) and (b) were amended to provide clarification of when a sizing adjustment may be made.

Comment

Representatives Howard and Workman commented that they encourage any specific details (such as the percent reduction chart) be included in TCEQ's guidance document only, and not in the rules themselves. The commenters noted that the reductions in the chart are too prescriptive and could lead to inappropriate sizing of OSSF systems. The commenters noted that suggested scenarios in a guidance document would be more appropriate, with latitude for permitting authorities to make appropriate sizing determinations as noted in the comments above. Additional communications with Representatives Howard and Workman's offices clarified that if recommended language consistent with final comments from the COA were made at adoption, this comment would be addressed.

Response

In response to separate comments from the COA during the comment period, the title of adopted §285.81, as well §285.81(a) and (b) were amended to clarify the intent of the sizing chart and to remove language that was interpreted as too prescriptive.

Comment

LCRA commented that §285.81(c) should be modified to require the master plumber to provide the permitting authority with a certification documenting which sewage sources

enter the OSSF after the plumbing is installed because changes from the approved planning materials are a frequent occurrence during construction and a means for verification of sewage sources after construction is needed.

Response

The commission agrees with this comment. In response to this comment, adopted §285.81(c) was amended to reflect that the evaluation by the master plumber must be conducted after the plumbing is installed.

Comment

Harris County, Septic Systems Express, and Texas Septic Systems Council commented that §285.81(f) only allows a professional engineer to demonstrate that a proposed system can meet effluent quality to limits provided if secondary treatment is required, while §285.81(e) allows both a professional engineer and a professional sanitarian to show that a system can meet effluent quality limits if secondary treatment is not required. The commenters recommend amending §285.81(f) to include professional sanitarians as well.

Response

The commission disagrees with this comment. The adopted rule is consistent with Chapter 285 rules. Section 285.32(c)(5)(A)(ii) requires proprietary systems treating wastewater stronger than 300 mg/l BOD to be considered non-standard treatment systems and §285.5(a)(3)(A) requires professional engineers to submit designs for non-

standard treatment systems which require secondary treatment. Allowing sanitarians to design systems for this particular high-strength effluent would create inconsistencies within Chapter 285. No change was made in response to this comment.

Comment

Septic Systems Express and Texas Septic Systems Council commented that for houses that will have graywater systems, the higher-than-normal organic strength of the wastewater going to the treatment unit will be offset by the reduction in volume and the higher retention time. Additionally, the commenters noted that there is no need for additional treatment when an aerobic treatment unit is being used in the new graywater application, this is because of the decreased hydraulic loading. The commenters stated that no additional designing than what's normally done and certainly no engineering will be required.

Response

The commission disagrees that additional detention time inside a primary treatment system/septic tank will reduce the higher strength wastewater to levels needed for disposal. No change was made in response to this comment.

Comment

Water ReNu commented that the text of proposed §285.81(j) should include a comma after "combined reuse system" to clarify that a graywater reuse system that doesn't have a reduced OSSF, does not require three days storage.

Response

The commission agrees with this comment. In response to this comment, adopted §285.81(j) was amended to include a comma before and after the phrase "used in association with a reduced effluent disposal system under this section…"

Comment

LCRA commented that §285.81(k) should be modified to require a standard "model" affidavit be included in the figures required by §285.90.

Response

The commission disagrees with this comment. This change is not possible as §285.90 is not a rule provision that is currently open and eligible for modification. No change was made in response to this comment.

Comment

Harris County commented that §285.81(k) should be amended to require the affidavit to include a metes and bounds description of the "specific reserve area that shall not contain surface improvements" for reduced effluent disposal systems. The commenter noted that doing so will assist with inspections by the permitting authority.

Response

The commission disagrees with this comment. The layout and location of OSSF components does not presently require a metes and bounds description. Requiring that for the location of future components is inconsistent with existing rules. No change was made in response to this comment.

Comment

Harris County commented that §285.81(l) should be modified in such a way that expands the availability of this enforcement tool to commercial and other systems (including single family residences with reuse systems without reduced effluent disposal systems).

Response

The commission partially agrees with this comment. OSSF reductions for non-single family residences with graywater reuse or combined reuse systems will not be allowed. Therefore, since the OSSF is already sized for graywater, connection of the graywater to the OSSF in these cases is presently required for compliance if the owner is convicted or found in violation under existing statutes. No change was made in response to this comment.

Comment

LCRA commented that §285.81(l) should be modified to include a definition for "improperly operating" that reads "operation in violation of 30 TAC Chapter 210,

subchapter F, of this chapter, or a rule adopted or order or permit issued under this chapter."

Response

The commission partially agrees with this comment. In response to this comment, adopted §285.81(l) was amended to remove the language "for improperly operating the graywater reuse system or combined reuse system" and language was added to clarify that a conviction or violation of any statute related to graywater or public health nuisance will allow a permitting authority to require connection of a graywater system to an OSSF, that the OSSF must be expanded to accommodate the graywater and that the expansion of the OSSF must be permitted.

SUBCHAPTER H: DISPOSAL OF GRAYWATER

§285.80 and §285.81

Statutory Authority

The amended section and new section are adopted under Texas Water Code (TWC), §5.013 and §5.102, which establish the commission's general jurisdiction and provides general powers of the commission over other areas of responsibility as assigned to the commission under the TWC; TWC, §5.103 and §5.105, which require the commission to adopt any rule or policy necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.120, which requires the commission to administer the law so as to promote judicious use and maximum conservation and protection of the environment and the natural resources of the state; and TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state by subjecting waste discharges or impending waste discharges to reasonable rules or orders adopted or issued by the Texas Commission on Environmental Quality in the public interest. Lastly, Texas Health and Safety Code (THSC), §341.039 and §366.012, which specifically direct the commission to adopt and implement rules related to the expanded use of graywater and alternative onsite water; THSC, §341.039, which directs the commission to adopt and implement minimum standards for the indoor and outdoor use and reuse of treated graywater and alternative onsite water; THSC, §366.012, which directs the commission to adopt rules to allow for an adjustment in the size required of an on-site sewage disposal system if the system is used in conjunction with a graywater or combined reuse system that complies

with the rules adopted under THSC, §341.039; and THSC, §366.011, which establishes the commission's authority over the location, design, construction, installation, and proper functioning of on-site sewage disposal systems.

The amended section and new section are adopted under the authority granted to the TCEQ by the Texas Legislature in THSC, Chapter 366. Specific statutory authorization derives from House Bill (HB) 1902, which amended TWC, §26.0311, and THSC, §341.039 and §366.012(a), relating to Standards for Control of Graywater, Standards for Graywater and Alternative Onsite Water, and Rules Concerning On-Site Disposal Sewage Disposal Systems.

The amendment section and new section implement the statutory amendments of HB 1902.

§285.80. General Requirements.

(a) For the purpose of this chapter, graywater is defined as wastewater from showers; bathtubs; handwashing lavatories; sinks that are used for disposal of household or domestic products; sinks that are not used for food preparation or disposal; and clothes-washing machines. Graywater does not include wastewater from the washing of material, including diapers, soiled with human excreta or wastewater that has come in contact with toilet waste.

(b) Construction of a graywater reuse system, including storage and disposal systems, must comply with this chapter; Chapter 210, Subchapter F of this title (relating to Use of Graywater and Alternative Onsite Water); and any more stringent requirements of the local permitting authority. For the purposes of this subchapter, a graywater reuse system begins at the graywater stub-out of a single family dwelling.

(c) A graywater reuse system must not create a nuisance or damage the quality of surface water or groundwater. If a graywater reuse system creates a nuisance, threatens human health, or damages the quality of surface water or groundwater, the permitting authority may take action under §285.71 of this title (relating to Authorized Agent Enforcement of OSSFs).

(d) A graywater reuse system shall comply with the requirements of this subchapter as they existed on the date installation was completed. The previous version of this subchapter is continued in effect for this purpose. Any alterations to an existing system must comply with this chapter; Chapter 210, Subchapter F of this title; and any more stringent requirements of the local permitting authority.

(e) No reduction in the size of the on-site sewage facility (OSSF) will be allowed when using a graywater reuse system unless the OSSF meets all of the conditions and requirements of §285.81 of this title (relating to Requirements and Conditions for Potentially Reducing the Size of an OSSF Disposal System for a Single Family Residence with a Graywater Reuse System or a Combined Reuse System).

(f) If the OSSF is not a reduced OSSF as described in §285.81 of this title, the graywater from either a graywater reuse system or a combined reuse system authorized under Chapter 210, Subchapter F of this title may, be connected to the OSSF to dispose of the graywater during periods when graywater is not being reused. If the reuse system is a combined reuse system as defined under Chapter 210, Subchapter F of this title, the flows from alternative onsite water sources must be diverted and shall not be allowed to enter the OSSF. Alternative water reuse systems as defined in Chapter 210, Subchapter F of this title, shall not be connected to the OSSF as OSSFs are not authorized nor designed to treat or dispose of flows from alternative onsite water sources. The piping connecting the graywater to the OSSF shall meet the applicable requirements of Subchapter D of this chapter (relating to Planning, Construction, and Installation Standards for OSSFs).

§285.81. Requirements and Conditions for Potentially Reducing the Size of an OSSF Disposal System for a Single Family Residence with a Graywater Reuse System or a Combined Reuse System.

(a) Graywater reuse systems and combined reuse systems are authorized in Chapter 210, Subchapter F of this title (relating to Use of Graywater and Alternative Onsite Water) without a permit, without the submission of planning materials, and without meeting the requirements and conditions of this section. However, a homeowner requesting an on-site sewage facility (OSSF) disposal system smaller than required in §285.33 of this title (relating to Criteria for Effluent Disposal Systems) must obtain a

permit and meet the requirements and conditions of this section. Additionally, the potential reduction of the OSSF disposal system in this section only applies to single family residence with a graywater reuse or a combined reuse system. OSSF disposal systems for non-single family residences with a graywater reuse or a combined reuse system shall not have an OSSF disposal system reduction.

(b) Effluent disposal system sizing. If the graywater reuse system or combined reuse system serving the single family residence is in compliance with Chapter 210, Subchapter F of this title, the effluent disposal system required in §285.33 of this title may be reduced in accordance with Table I in Figure: 30 TAC §285.81(b) of this section.

Figure: 30 TAC §285.81(b)

Table I. Potential Percent Reduction

Sewage sources entering the graywater reuse system or combined reuse system	**Potential percent reduction to the effluent disposal system required in §285.33 of this title**
Clothes-washing machine only	20
Showers, bathtubs, hand-washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	30
Clothes-washing machines, showers, bathtubs, hand-	50

washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	

(c) Verification of plumbing entering the OSSF. A licensed master plumber shall evaluate and document, after the plumbing is installed, which sewage sources will be entering the OSSF. The documentation must be provided to the OSSF permitting authority.

(d) Increased wastewater strength. When graywater is removed from the total sewage stream, the remaining sewage stream entering the OSSF will have a higher organic strength. The resulting increase in sewage strength shall be determined in accordance with Table II in Figure: 30 TAC §285.81(d) of this section.

Figure: 30 TAC §285.81(d)

Table II. Adjusted Organic Strength

Sewage sources entering a graywater reuse system or a combined reuse system	**Five-day Biochemical Oxygen Demand (BOD_5) design strength for sewage entering on-site sewage facilities milligrams per liter (mg/l)**
Clothes-washing machine only	375
Showers, bathtubs, hand-washing lavatories, and sinks that are not used for the	430

disposal of hazardous or toxic ingredients	
Clothes-washing machines, showers, bathtubs, hand-washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	600

(e) If the effluent disposal system does not require secondary treatment, either a professional sanitarian or a professional engineer shall demonstrate with effective treatment design and supporting calculations that the proposed treatment system will reduce the effluent quality down to 140 milligrams per liter five-day biochemical oxygen demand (mg/l BOD_5) prior to entering the effluent disposal system.

(f) If the effluent disposal system requires secondary treatment, then a professional engineer shall demonstrate with effective treatment design and supporting calculations that the effluent quality meets the levels outlined in §285.32(e) of this title (relating to Criteria for Sewage Treatment Systems).

(g) If the effluent disposal system is reduced based on the presence of a graywater reuse system or a combined reuse system, a reserve area equivalent to the reduced area shall be shown to be available for future construction of a disposal field should the graywater reuse system or combined reuse system be abandoned at a later date. The reserve area shall meet the setbacks required by §285.91(10) of this title (relating to Tables) and shall not be used for any surface improvements.

(h) Graywater or alternative onsite water, as defined in Chapter 210, Subchapter F of this title, shall not be applied to the surface of a reduced effluent disposal system.

(i) The reduced effluent disposal system is not sized to accommodate graywater. Therefore, there shall not be any physical connection between the graywater reuse system or the combined reuse system and any part of the OSSF without authorization from the OSSF permitting authority.

(j) In addition to the requirements outlined in Chapter 210, Subchapter F of this title, a graywater reuse system or a combined reuse system, used in association with a reduced effluent disposal system under this section, must have a storage tank capable of storing a volume of three days of graywater. The storage is necessary to prevent application of graywater during periods when the landscape is saturated.

(k) Before a license to operate is issued for a reduced effluent disposal system allowed under this section, an affidavit shall be properly filed and recorded in the deed records of the county. The affidavit must include the owner's full name, the legal description of the property, a statement that the permit for the OSSF is transferred to the new owner upon transfer of the property, a statement that the effluent disposal system is reduced due to the presence of a graywater reuse system or a combined reuse system, a statement that the specified reserve area shall not contain surface improvements, and a statement that the graywater reuse system or combined reuse system cannot be

connected to the OSSF without obtaining a permit from the OSSF permitting authority.

(l) If the property owner of a graywater reuse system or a combined reuse system on a property served by a reduced effluent disposal system is convicted under or found in violation of any statute related to graywater or public health nuisance, and the system is not properly repaired in a timely manner , the OSSF permitting authority may require the graywater to be connected to the OSSF. If the OSSF permitting authority requires the graywater to be connected to the OSSF, the effluent disposal system must be expanded to accommodate all the flow required in §285.91(3) of this title, and the expansion must be permitted by the OSSF permitting authority.

SUBCHAPTER H: DISPOSAL OF GRAYWATER

§285.81

Statutory Authority

The repeal is adopted under Texas Water Code (TWC), §5.013 and §5.102, which establish the commission's general jurisdiction and provides general powers of the commission over other areas of responsibility as assigned to the commission under the TWC; TWC, §5.103 and §5.105, which require the commission to adopt any rule or policy necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.120, which requires the commission to administer the law so as to promote judicious use and maximum conservation and protection of the environment and the natural resources of the state; and TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state by subjecting waste discharges or impending waste discharges to reasonable rules or orders adopted or issued by the TCEQ in the public interest. Lastly, Texas Health and Safety Code (THSC), §341.039 and §366.012, which specifically direct the commission to adopt and implement rules related to the expanded use of graywater and alternative onsite water; THSC, §341.039, which directs the commission to adopt and implement minimum standards for the indoor and outdoor use and reuse of treated graywater and alternative onsite water; THSC, §366.011, which establishes the commission's authority over the location, design, construction, installation, and proper functioning of on-site sewage disposal systems; and THSC, §366.012, which directs the commission to adopt rules to allow for an adjustment in the size required of an on-site

sewage disposal system if the system is used in conjunction with a graywater or combined reuse system that complies with the rules adopted under THSC, §341.039 and which requires the commission to adopt rules consistent with the policy defined in TWC, §26.0311, and THSC, §341.039 and §366.012, relating to Standards for Control of Graywater, Graywater Standards, and Rules Concerning On-Site Disposal Systems.

Specific statutory authorization derives from House Bill (HB) 1902, which amended TWC, §26.0311, and THSC, §341.039 and §366.012(a).

The repeal implements the statutory amendments of HB 1902.

§285.81. Criteria for Disposal of Graywater.