NSF International Survey: US States Response to NSF/ANSI Standards 350 and 350---1

Standards for onsite water reuse treatment systems

2015 NSF Scholar
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Introduction

The 2015 National Sanitation Foundation (NSF) International internship was awarded to fund a research project that inquires how each of the 50 states has responded new NSF Standards 350 and 350-1 for onsite wastewater reuse in non-potable situations. NSF Standards 350 and 350-1 provide a set of criteria and comprehensive testing for reuse technologies.

The US faces an increasing water scarcity burden, driving smarter water use and reuse by communities and governments, and the interest and necessity surrounding the use of treated wastewater for non-potable applications is rising due to the growing pressures on water supply infrastructure. Municipal reclaimed water is well established and represents one source of water for irrigation, toilet flushing, and other non-potable water applications, and now this concept is being applied to small-scale, onsite treatment systems, where wastewater generated onsite can remain onsite for treatment and use within the same structure.¹

A number of water reuse technologies exist and are applicable to onsite residential and commercial reuse treatment systems; however, there are no federal guidelines outlining criteria for the acceptable quality of reuse water. NSF International is an accredited, independent third-party certification body committed to providing public health and safety-based risk management solutions through testing and certifying products to verify they meet public health and safety standards. In response to the need for standards of treatment quality and treatment product evaluation of promote safe, acceptable water reuse technologies, NSF International developed NSF/ANSI Standard 350: *On-site Residential and Commercial Water Reuse Treatment Systems* and NSF/ANSI Standard 350-1: *Onsite Residential and Commercial Graywater Treatment Systems for Subsurface Discharge*. The standards establish minimum material, design and construction, and performance requirements for onsite residential and commercial water treatment systems.²³

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The purpose of the 2015 NSF Scholar project was to conduct an exploratory survey to characterize how and if the states have heard of and/or incorporated NSF 350 and 350---1 into their legislation. Specifically, the project aimed to gain information on which states are using the standards, how they are enforcing the standards, if they have plans to incorporate the standards, and if they are not using the standards, why not? Results of the survey were aimed to provide NSF with information about that states’ interest, knowledge and application of standards 350 and 350---1.

Methods

A major goal of this project was to maximize participation in the survey and get responses from as many states as possible. Identifying the best person to provide feedback, establishing a connection by phone and e---mail with that person, and following up with the participants helped achieve an acceptable response rate. State government websites from each state were used to determine which state agency had responsibility of onsite wastewater systems and to identify the contact information of the person who had authority over onsite wastewater regulation and management. An early contact list was generated from these websites, and the names, e---mail addresses, telephone numbers and titles were recorded. Some states did not have staff members listed. In this case, the general contact information for the agency was recorded.

The identified representative contact from each state was called for a brief informational interview to gain some background information about onsite wastewater systems in their state. After explaining the purpose and goals of the survey and project, they were asked general questions about their familiarity with NSF 350 and 350---1, how onsite wastewater systems are regulated, and whether or not they were aware of any water recycling programs in their state. At the end of the interview, each contact was asked to confirm their e---mail address and their consent to providing feedback on the survey. A follow up e---mail was sent immediately after the phone call to each of the contacts, which provided a timeline of the project, including when the survey opened, the date it closed, and when the results would become available.

Information from the preliminary interviews regarding each state’s current regulations surrounding onsite wastewater treatment systems helped to shape the
focus of the survey questions. The majority was not familiar with or had not heard of NSF Standards 350 and 350-1. Further, most states expressed that they did not have the resources or regulatory structure in place to allow onsite wastewater treatment for water recycling in non-potable situations. Therefore, the direction of the survey shifted from the NSF standards as the main focus towards characterizing the states regulations and perceptions of onsite wastewater recycling as the main focus.

Both Qualtrics and Survey Monkey were considered for the survey platform. The two services offer comparable services; however, Qualtrics was finally chosen for two main reasons: superior user-friendliness and customer support. The branched logic function of Qualtrics was used to present questions relevant to each participant. Certain questions were presented to participants based on how they answered. This differentiated states into categories, which allowed targeted questions to gain pertinent information about different groups. For example, participants who had heard of the NSF standards were asked different questions than those who had not heard of the standards. There were a total of 14 questions on the survey, but any participant would only be presented 8-11 based on their answers. The questions on the survey can be grouped into three main categories: 1) Regulation and uses of onsite wastewater systems for water recycling; 2) Perception of onsite wastewater systems for water recycling; 3) Implementation of NSF Standards 350 and 350-1.

A draft of the survey was sent to two supporting faculty from the University of Washington and the onsite systems and reclaimed water programs supervisor at the Washington State Department of Health for feedback. Once finalized, the survey was e-mailed to the pre-notified and consenting contacts from each state. Each participant was given one month to complete the survey. Health officials that did not complete the survey after the first and/or third week were sent e-mail reminders. Each state was extended the opportunity to receive the results of the survey electronically. After one month, the survey was closed and the results were collected and analyzed.
Results and Discussion

Recruitment

Contacting the right person to take the survey proved to be the biggest challenge in getting a response from each state. Most commonly, multiple people were contacted from each state before finding someone who felt they were suited to give accurate, representative feedback on the survey. The process of generating the final list of contacts took a total of three weeks. After e-mailing the survey and sending two reminders, an acceptable response rate of 43/50 (86%) states was received.

Regulation and Uses of Onsite Wastewater Systems for Non-potable Recycling

These questions served to characterize the regulation and prevalence of water recycling in the US, specifically onsite wastewater recycling. The purpose behind this group of questions was to put the NSF standards into context.

The questions in this category were as follows.

1) Are on-site water systems regulated at the state level or are they delegated to local county health agencies?

2) Is there any program or effort in your state that reviews, approves, and issues permits for the treatment of wastewater and/or graywater for beneficial reuse (not limited to on-site water systems)? If yes, what agencies are involved?

3) Please select all non-potable applications that are permitted from reclaimed wastewater and/or graywater.

4) Does your state currently allow on-site wastewater and/or graywater reuse technologies for non-potable applications?

5) Please select all non-potable applications that are permitted from on-site residential or commercial reuse systems.

Question 1 asked about any onsite water systems (not restricted to reuse technologies). The responses revealed that the regulatory pathway of onsite water systems varied greatly from state to state and is largely dependent on the type and size of treatment system (Fig. 1).
Question 2 demonstrated that the majority of the nation (79%) has established some type of water recycling program, and the leading use of treated wastewater is subsurface irrigation (96%; Fig. 2, Fig. 3).

![Pie chart showing water recycling programs: State Agency 49%, Local Health Agency 26%, Other 23%, Authority Having Jurisdiction 2%]

**Figure 1. Are on-site water systems regulated at the state level or are they delegated to local county health agencies?**

**Figure 2. Is there any program or effort in your state that reviews, approves, and issues permits for the treatment of wastewater and/or graywater for beneficial reuse (not limited to on-site water systems)? If yes, what agencies are involved?**
The next question asked specifically about onsite wastewater/graywater reuse technologies. Feedback for this question was counterintuitive and showed that 40% of states responded that they allowed both graywater and wastewater reuse technologies, while only 23% of the states answered that they only allowed the reuse of graywater from reuse treatment technologies. 16% of the states said they were unsure (Fig. 4).

These responses suggest that this question may have been confusing, and some state representatives may not have made the distinction between onsite treatment systems and municipal or centralized treatment systems. Subsurface irrigation was
the most common use of recycled water from onsite water treatment systems for non-potable use (Fig. 5).

Perception of onsite wastewater recycling

It was important to gather information about the states’ attitudes and perception regarding onsite wastewater recycling, because it sheds light on some significant barriers to adopting reuse systems. The questions in this category were:

6) The need to adopt and develop on-site water reuse technologies in your state is a: 1 - Low Priority; 2; 3; 4 – High Priority

7) Please select your top public health concerns about on-site water reuse systems (select all that apply).

8) What are the biggest barriers for implementation of on-site residential and commercial water treatment systems for reuse in non-potable applications (select all that apply)?

9) Would your state be more likely to consider on-site water reuse treatment systems if the technologies met a national standard such as NSF/ANSI Standards 350 and/or 350-1?
The biggest barrier, perhaps, was revealed in the answers to question 6. On a scale from 1 to 4 (1 – low priority; 4 – high priority), the states, on average, ranked the necessity of developing onsite wastewater reuse technologies at 1.98 (Fig. 6). This suggests that overall, developing regulations for permitting onsite water systems for reuse is not a high priority throughout the nation. A topic that was brought up in the pre-survey phone interviews was the issue of the growing water demand in the nation and whether or not promoting onsite wastewater recycling as an alternate water source could help mitigate the pressure on water supplies. Participants generally expressed concern over the unsustainable, growing water demand; however, because the path to allowing onsite reclaimed water systems seemed too unclear, expensive, labor intensive, and possibly dangerous participants felt that onsite water recycling was not a feasible solution for the water demand problem. These attitudes were encapsulated in the responses to questions 7 and 8.

**Figure 6. The need to adopt and develop on-site water reuse technologies in your state is a: 1 – Low priority; 2; 3; 4 – High priority**

Questions 7 and 8 asked about what states felt were the biggest concerns and barriers surrounding the use of onsite wastewater for recycling. Risk of exposure to potential pathogens rose to the top as the most significant public health concern (73%), followed by lack of unified standards for operations and management (44%), and cross connection potential (40%) (Fig. 7). The top three biggest barriers for
implementing onsite wastewater systems for water reuse are the lack of qualified personnel to regulate and monitor (53%), an unclear regulation path (42%), and that there is no apparent need for onsite water reuse systems (40%) (Fig.8). These concerns were further expressed in the last two questions, which were optional, free response and provided room to add comments about the standards and the survey.

*Figure 7. Please select your top public health concerns about on-site water reuse systems (select all that apply).*
Lack of qualified personnel to regulate and monitor 24
Unclear regulation path 19
No apparent need for onsite water reuse systems 18
Uncertainty surrounding water quality of effluent 17
Uncertainty surrounding adequacy of treatment technologies 16
Financial availability 12
Public approval 11
Water rights issues 2
Other (please specify) 7

NSF 350 and 350---1 are meant to provide minimum criteria for treatment technologies and test methods; however, the feedback from these questions indicate that there are issues and concerns beyond the treatment system technology that discourages states from looking into the implementation of onsite water systems for reuse. Therefore, it is possible that it is simply too soon for the standards to be relevant.

Question 9 was only presented to participants who answered “no” or “unsure” when asked if their state allowed any onsite wastewater reuse technologies. The purpose of this question was to gain a sense of whether or not the standards would encourage states to develop onsite water systems for reuse. 50% of the states that answered this question ranked their answer at a 2, and the average ranking was 2.29, which is weighted more towards “unlikely” (Fig. 9). These responses are in congruence with the feedback from question 6.

Figure 8. What are the biggest barriers for implementation of on-site residential and commercial water treatment systems for reuse in non-potable applications (select all that apply)?
Implementation of NSF Standards 350 and 350-1

This group of questions addressed the original question of the project: How have states responded to NSF Standards 350 and 350-1?

10) Have you heard of NSF/ANSI Standards 350: On-site Residential and Commercial Water Reuse Treatment Systems and/or NSF/ANSI Standard 350-1: On-site Residential and Commercial Graywater Treatment Systems for Subsurface Discharge prior to this survey?

11) NSF/ANSI Standards 350 and 350-1 establish material, design, construction, water quality, and performance requirements for on-site residential and commercial water reuse systems treating graywater and wastewater for non-potable uses. How interested are you in learning more about NSF/ANSI Standards 350 and 350-1 for possible consideration in state legislation?

12) Does your state have any future plans to adopt, permit, or implement NSF/ANSI Standards 350 and/or 350-1?

Question 10 uncovered that the majority (72%) of the states that responded had heard of NSF standards 350 and 350-1 (Fig. 10). The 28% of states that had not heard of 350 and 350-1 were given a little bit of information about the standards, then asked to rank their interest in learning more about the standards on a scale of 1 to 4. The average came out to be 2.15, leaning more heavily towards “uninterested” (Fig. 11).
Figure 10. Have you heard of NSF/ANSI Standards 350: On-site Residential and Commercial Water Reuse Treatment Systems and/or NSF/ANSI Standard 350-1: On-site Residential and Commercial Graywater Treatment Systems for Subsurface Discharge prior to this survey?

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>31</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
</tr>
</tbody>
</table>

Figure 11. NSF/ANSI Standards 350 and 350-1 establish material, design, construction, water quality, and performance requirements for on-site residential and commercial water reuse systems treating graywater and wastewater for non-potable uses. How interested are you in learning more about NSF/ANSI Standards 350 and 350-1 for possible consideration in state legislation? (Total of 12 states responded)
Of the states that had heard of the standards were asked about their state’s plans to adopt the standards. 8% (4 states) expressed that they had already implemented the standards; 14% (7 states) revealed they had future plans to implement the standards; 41% (18 states) said that they had no plans to incorporate the standards into their legislation or regulation (Fig. 12). States that did not respond to the survey are shaded gray.

Figure 12. Does your state have any future plans to adopt, permit, or implement NSF/ANSI Standards 350 and/or 350-1?
Limitations

This was an exploratory survey that aimed to gain some insight about the nation’s readiness to adopt onsite wastewater recycling for non-potable situations and interest in NSF Standards 350 and 350--1. The results provide some interesting observations, which lead to further research questions, but should not be taken as definite as many limitations were present.

One limitation was the challenge in creating a survey that was generalizable to every state. Each state has different regulatory structures, definitions, and motivations surrounding onsite wastewater systems, which made it difficult to select and word questions that would be applicable to everyone taking the survey. Definitions of graywater and onsite wastewater treatment systems were provided at the beginning of the survey; however, many states expressed that some of the wording of questions was confusing or unclear. Another imperfection is that many of the questions asked for opinions, and since only one person from each state responded, the feedback reflects only that participant’s attitude, which may not be accurately representative of their state. Additionally, in many states, the on-site sewage program for residential premises has been delegated to local health agencies. Because this study surveyed only state officials, the participants may or may not have complete knowledge regarding local regulation.

This survey targeted health officials for responses. However, another useful group to gain feedback from would be those who work with building and plumbing codes.

Conclusion

Although there were some limitations with the survey, the project successfully gathered information regarding how states have received the NSF standards and exposed some of the challenges involved with not only implementing the standards, but also with onsite wastewater treatment systems for water recycling. Most useful, are the concerns and barriers the states feel to developing these systems. The main concerns that states communicated about onsite water systems and the NSF standards fell under three main categories: 1) Lack of interest; 2) Lack of regulatory and management structures; 3) Lack of education and accountability for homeowners and business managers. These three responses reflect the feedback to questions 8 and 9.
The first concern, lack of interest, is arguably the biggest barrier. While many states currently face water scarcity risks, most of the responses indicated that that availability of water supplies has not been an issue, and therefore onsite water recycling is not of interest. One state responded, “the need for reuse of wastewaters in not really an issue in a state that’s pretty much inundated with a lot of water.” The price of onsite wastewater recycling systems further decreases the interest in pursuing them. “Even if there were a shortage of water, the cost involved for a specific population of residents would be too high,” one participant explained. Another response reflected the cost concern from the state perspective: “The Conservative nature of state government does not place significant importance on recycling or conservation of water.”

The last two concerns are interrelated. Many state officials’ primary concern is that the regulation path for these systems, if they were to be put in place, is unclear. There is no authority requiring operations and maintenance permitting if it is a small private system, and there is no accountability for end users, such as homeowners. The worry is that home operators will not consistently maintain and operate the treatment systems sufficiently to ensure accepted, safe effluent quality.

NSF Standards 350 and 350---1 are an important piece in promoting and permitting onsite reuse technologies. However, the feedback from this survey illustrate that there are multiple issues that also must need to be addressed before onsite water technologies are fully and widely accepted across the nation.
Appendix A
Figure 1. Are on-site water systems regulated at the state level or are they delegated to local county health agencies?
Figure 2. Is there any program or effort in your state that reviews, approves, and issues permits for the treatment of wastewater and/or graywater for beneficial reuse (not limited to on-site water systems)? If yes, what agencies are involved?

Figure 3. Please select all non-potable applications that are permitted from reclaimed wastewater and/or graywater
Figure 4. Does your state currently allow on-site wastewater and/or graywater reuse technologies for non-potable applications?

Figure 5. Please select all non-potable applications that are permitted from on-site residential or commercial reuse systems.
Figure 6. The need to adopt and develop on-site water reuse technologies in your state is a: 1 – Low priority; 2; 3; 4 – High priority
Figure 7. Please select your top public health concerns about on-site water reuse systems (select all that apply).

Figure 8. What are the biggest barriers for implementation of on-site residential and commercial water treatment systems for reuse in non-potable applications (select all that apply)?
Figure 9. Would your state be more likely to consider on-site water reuse treatment systems if the technologies met a national standard such as NSF/ANSI Standards 350 and/or 350-1?

Figure 10. Have you heard of NSF/ANSI Standards 350: On-site Residential and Commercial Water Reuse Treatment Systems and/or NSF/ANSI Standard 350-1: On-site Residential and Commercial Graywater Treatment Systems for Subsurface Discharge prior to this survey?
Figure 11. NSF/ANSI Standards 350 and 350-1 establish material, design, construction, water quality, and performance requirements for on-site residential and commercial water reuse systems treating graywater and wastewater for non-potable uses. How interested are you in learning more about NSF/ANSI Standards 350 and 350-1 for possible consideration in state legislation? (Total of 12 states responded)
Figure 12. Does your state have any future plans to adopt, permit, or implement NSF/ANSI Standards 350 and/or 350-1?
### Table 1. Free response

<table>
<thead>
<tr>
<th>Please describe your specific concerns or suggestions related to NSF/ANSI 350 and 350—1 or the survey.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unclear at this time whether/how such standards will address environmental regulatory requirements pertaining to potential discharges to ground waters and surface waters.</td>
</tr>
<tr>
<td>In Georgia, there is no authority to require Operation and Maintenance permitting on these small private systems. It's not a question of testing and listing the reuse technologies under the NSF Standard nor incorporating the standard into the IPC. But that at the completion of construction permit the system owner has no regulatory obligation to maintain the system.</td>
</tr>
<tr>
<td>At this time we have no concerns. The units approved within this standard will be very beneficial and will be used throughout the state to address difficult sites and situations.</td>
</tr>
<tr>
<td>Iowa regulations define sewage to include black and grey water. Treatment standards are the same regardless. Public perception of allowed treatment to a lesser standard would be problematic for ongoing enforcement efforts given the large number of systems remaining with no secondary treatment.</td>
</tr>
<tr>
<td>We would not want to limit ourselves to NSF 350 only. Engineered systems would also work. While good effort went into water quality standards, not sure that a real risk assessment was completed. Would like more scientific basis for treatment/water quality. Expense of certification, larger systems require pilot, how to address ongoing operation &amp; maintenance.</td>
</tr>
<tr>
<td>Primary consideration is cost to applicants. If they have a product that meets these same minimum standards, the ongoing testing and cost associated with NSF certification seems unnecessary.</td>
</tr>
<tr>
<td>Regulation and training for the end users. How will systems be monitored for ongoing O&amp;M requirements? How will owners/end users be trained to properly operate, maintain and monitor these systems?</td>
</tr>
<tr>
<td>It seems to be focused on smaller systems, where the regulations for onsite wastewater treatment systems are not conducive for incorporation of the Standard. We would need stronger laws and regulations to oversee the regulatory community to implement that type of standard.</td>
</tr>
<tr>
<td>May conflict with state administrative code</td>
</tr>
<tr>
<td>The Standards are good. Difficult to require in State Codes, especially due to conflicting environmental and plumbing code interactions. Also, Industry hasn't embraced these standards by certifying products to meet them.</td>
</tr>
<tr>
<td>Legislative body does not place importance on wastewater regulation in general, but rather leaves it up to individual Health Units.</td>
</tr>
</tbody>
</table>
I oversee the onsite wastewater treatment program for Oklahoma. Onsite wastewater treatment systems return the treated effluent back to the environment typically in the same watershed where the potable water is removed. These systems by design are reuse systems without the need for separate collection plumbing or treatment. Typically the public does not understand that grey water from tubs, sinks or laundry contain pathogens that need to be treated prior to dispersal.

The reader should be cautious about the influent strength of wastewater used during the NSF 350 certification test.

The Standards do not evaluate treatment product real-world effectiveness under non-ideal conditions nor does it evaluate the potential for adverse effects in the field. Need to make sure that once the treatment products is installed and used in local environments that the treatment efficieinces are still being achieved because of the large number of variables encountered in the field.

Not familiar enough with these standards yet to be able to say. Initially, it is hard to even clarify the difference between the two!

I am not familiar enough with the technical requirements of NSF/ANSI 350 to have an opinion on the matter.

Indiana has shown little interest in this area due to lack of demand or need for this type of program. There is also resistance to implementation of a requirement for this type of technology. The availability of water supplies, at least to date, has not been an issue.

As indicated by my answers, the need for re-use of wastewaters is not really an issue in a state that's pretty much inundated with a lot of water. Even if there were a shortage of water, the cost involved for a specific population of residents would be too high, and subsequently there would be a lack of routine maintenance of equipment, for which is already an issue with onsite wastewater systems for individual homes, as well as commercial, small and large. While I personally like the idea of conserving our natural resources, I just don't think this idea would garner a lot of support from the overall public or politically bodies in this state at this time, and maybe never.

We are glad to have the standard but there are still some gaps.

- no apparent need for reuse at residential level / lack of oversight or follow-up for any system that is approved / public perception /

- Additional cost of installing reuse systems, as New Mexico requires a full sized system, no credit towards soil treatment areas offered for re-use systems

- RI does not have a current need for re-use.

- Conservative nature of state government does not place significant importance on recycling or conservation of water.

- Rules for complete potable reuse are in development due to recent legislative changes. Our concerns are a lack of nationally accepted standards for levels of treatment, appropriate surrogates for continuous monitoring, how to effectively review and approve products, best technical engineering practices for fail-safes and system redundancies, and concerns over ensuring enforcement of system maintenance requirements.
Appendix B: Survey Questionnaire (not including branches)

1) Are on-site water systems regulated at the state level or are they delegated to local county health agencies?
   - State Agency (please specify)
   - Local Health Agency
   - Authority having Jurisdiction
   - Other (Please specify)

2) The need to adopt and develop on-site water reuse technologies in your state is a:
   - 1 – low priority
   - 2
   - 3
   - 4 – high priority

3) Is there any program or effort in your state that reviews, approves, and issues permits for the treatment of wastewater and/or graywater for beneficial reuse (not limited to on-site water systems)? If yes, what agencies are involved?
   - Yes ________________
   - No
   - Unsure

4) (If “yes” to Q3) Please select all non-potable applications that are permitted from reclaimed wastewater and/or graywater.
   - Surface Irrigation
   - Subsurface Irrigation
   - Toilet and Urinal Flushing
   - Clothes Washers
   - Decorative Fountains
   - Cooling Tower Make-up
   - Process Water
   - Other (please specify)

5) Does your state currently allow on-site wastewater and/or graywater reuse technologies for non-potable applications?
o Yes, both
o Yes, graywater systems only
o No
o Unsure

6) (If “Yes” to Q5) Please select all non-potable applications that are permitted from on-site residential or commercial reuse systems.
   o Surface Irrigation
   o Subsurface Irrigation
   o Toilet and Urinal Flushing
   o Clothes Washers
   o Decorative Fountains
   o Cooling Tower Make-up
   o Process Water
   o Other (please specify)

7) Please select your top public health concerns about on-site water reuse systems (select all that apply).
   o Lack of unified standards for water quality treatment
   o Lack of unified standards for operations and management
   o Lack of unified standards for monitoring requirements
   o Cross-connection potential
   o Lack of accountability
   o Risk of exposure to potential pathogens
   o None
   o Other (please specify)

8) What are the biggest barriers for implementation of on-site residential and commercial water treatment systems for reuse in non-potable applications (select all that apply)?
   o Unclear regulation path
   o Uncertainty surrounding adequacy of treatment technologies
   o Uncertainty surrounding water quality of effluent
   o No apparent need for on-site water reuse systems
   o Financial availability
   o Public approval
   o Water rights issues
   o Lack of qualified personnel to regulate and monitor
   o Other (please specify) ________________

9) Have you heard of NSF/ANSI Standards 350: On-site Residential and Commercial Water Reuse Treatment Systems and/or NSF/ANSI Standard 350-1: On-site Residential
and Commercial Graywater Treatment Systems for Subsurface Discharge prior to this survey?

- Yes (How did you hear about it?) _____________
- No

10) (If “No” to Q9) NSF/ANSI Standards 350 and 350---1 establish material, design, construction, water quality, and performance requirements for on---site residential and commercial water reuse systems treating graywater and wastewater for non---potable uses.

How interested are you in learning more about NSF/ANSI Standards 350 and 350---1 for possible consideration in state legislation?

- 1 – Very Uninterested
- 2
- 3
- 4 – Very Interested

11) (If “no” or “unsure” to Q5) Would your state be more likely to consider on---site water reuse treatment systems if the technologies met a national standard such as NSF/ANSI Standards 350 and/or 350---1?

- 1 – Very Unlikely
- 2
- 3
- 4 – Very Likely

12) (If “yes” to Q9) Does your state have any future plans to adopt, permit, or implement NSF/ANSI Standards 350 and/or 350---1?

- Yes
- No
- State legislation has already incorporated NSF/ANSI Standards 350 and/or 350---1

13) (If “yes” to Q9) Please describe your specific concerns and/or suggestions related to NSF/ANSI 350 and/or 350---1.

14) Please provide any additional comments or concerns related to this survey or your state’s efforts in water recycling.