



OCT 29 2018

October 26, 2018

California Department of Housing and Community Development
2020 W. El Camino Avenue
Sacramento, CA 95833

Dear HCD:

Enclosed please find ReWater Systems' Response to 45-day Express Terms for Proposed Building Standards of the Department of Housing and Community Development regarding the adoption of the 2019 California Plumbing Code California Code of Regulations, Title 24, Part 5.

I look forward to working with you to keep improving this important water conservation, water reuse, wastewater reduction, and irrigation run-off elimination code otherwise known as the greywater code.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Wm. Bilson".

Stephen Wm. Bilson, Owner

**REWATER SYSTEMS' RESPONSE TO 45-DAY EXPRESS TERMS FOR PROPOSED BUILDING
STANDARDS OF THE DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
REGARDING THE ADOPTION OF THE 2019 CALIFORNIA PLUMBING CODE, CALIFORNIA
CODE OF REGULATIONS, TITLE 24, PART 5**

(HCD 2/18)

**By
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October 26, 2018

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EXHIBITS

1. ReWater's May 15, 2018, letter to Kyle Krause, Assistant Deputy Director, HCD
2. Email to wwt_tg_350standardsnsf.org from Jason.Snider@NSF.org, October 22, 2018

Following, in the order found in HCD's proposed 2019 CPC Triennial Express Terms, are comments provided by ReWater Systems from its 28 years in the legal greywater irrigation industry.

The code sections commented upon are in **bold** font. Suggested changes are underlined.

I. 2016 CPC Chapter 15 Intent

The provisions of this chapter are intended to:

- 1. Conserve potable water by facilitating greater reuse of laundry, shower, lavatory and similar sources of discharge, or by the use of alternate water sources, where available.**
- 2. Reduce the number of non-compliant gray water systems by making legal compliance easily achievable.**
- 3. Provide guidance for avoiding potentially unhealthful conditions.**
- 4. Provide an alternative way to relieve stress on a private sewage disposal system by diverting the gray water.**

ACTION REQUESTED: Retain the Legislature's entire Intent statement for this code.

ISSUE: This now-missing Intent statement was and still is a critical part of our Legislature's evolved, on-going effort to keep the regulatory community aware of why this code exists in the first place.

For the last three decades that ReWater has been active in California's legal greywater irrigation industry, California has been having a hard time matching its water resources with the increasing demand for water. To help alleviate that problem, California has tried to increase water reuse. As part of that endeavor, California once led the nation in legalizing greywater irrigation. California is now well known as the leader in repressive greywater regulations. Removing the Intent section is just one of the latest in a long series of changes and restrictions to the code that do not benefit the public.

In response to any claim such language is not "regulatory", I would point to numerous other sections of language in this very Chapter and in the main body of the code that are similar or identical in nature that are considered to be "regulatory" by the individuals and entities who have traditionally opposed greywater reuse. These attempts to restrict greywater reuse date back to the beginning of the legal movement.

At the direction of the Legislature in 1990-1992, the California Ad-Hoc Graywater Committee was formed to study ways to achieve "the maximum, safe use" of greywater. Co-Chaired by the California Department of Water Resources (DWR) and Department of Health Services (now Department of Public Health, DPH), that committee consisted of dozens of interested NGOs, regulators, and water reuse and irrigation businesses. After

two years of study, that Committee found that raw greywater sans kitchen water is a plentiful and very benign source of water, virtually indistinguishable in pathogenic content from rain run off, and it's suitable for subsurface irrigation without treatment.

Taking that finding to its next level, in 1992, Assembly Bill #3518 (Sher, Palo Alto) passed unanimously in both the Assembly and Senate. AB3518 directed DWR and DHS to study greywater again for its "maximum, safe use", which resulted in the review of over 525 studies on greywater, achieved participation from over two dozen health, safety, environmental, water, and building code agencies as well as numerous NGOs, businesses, and the general public concerned about such matters.

During that time, the City of Los Angeles' Graywater Pilot Program Report became available to DWR and DHS. It found that 1) greywater without kitchen water was about 50% of all water used in a home, 2) greywater without kitchen water was no more dangerous than the existing run-off from residential landscapes, and 3) the only reason the reuse of such greywater might not become a major factor in alleviating this state's chronic water supply problem was that historic plumbing codes were in the way.

Throughout the entire AB3518 effort to update its historic plumbing code, any type of reuse was consistently opposed by the International Association of Plumbing and Mechanical Officials (IAPMO), a private corporation comprised of plumbing and mechanical officials and other members from numerous other states and around the world whose water resources knowledge, climate situation, and understanding and appreciation of technology are substantially different than California's.

The only thing IAPMO would consider was the disposal of greywater (ergo, see their Appendix J of 1992; essentially a copy of septic regulations with "greywater" replacing the word "sewage"). Despite overwhelming scientific evidence to the contrary, IAPMO adamantly and repeatedly testified before the Assembly Water, Parks, and Wildlife Committee, the Department of Water Resources, the California Water Commission, and constantly before the California Building Standards Commission, that greywater even as defined by AB3518 was nothing but sewage and they would not allow any consideration of greywater reuse in the main body of IAPMO's Uniform Plumbing Code (UPC) that California adopts as it's model code pursuant to a long-standing agreement.

To achieve any type of greywater reuse via a statewide code, DHS and DWR had to create an entirely new appendix to the California Plumbing Code. After two years of extensive study and debate, our nation's first state greywater reuse regulations for single-family homes were issued right here in California for Californians by Californians.

One of the provisions of California's new code's enabling statute, Water Code Section 14875 et seq, was that DWR was to update the state's greywater code as needed. It was immediately clear to all involved with the AB3518 effort that certain updates were needed. IAPMO stonewalled all efforts by DWR to undergo any update to that original

code. So, in 1995, California passed AB313 (MacDonald, Bakersfield), which required DWR to consult with the Center for Irrigation Technology at California State University, Fresno, in amending the state's new greywater Appendix to specifically allow underground drip irrigation and similar regulations for multi-family greywater irrigation systems in the CPC.

Again, virtually every state, regional, and local agency concerned about such matters, along with numerous interested NGOs and businesses, cooperated in writing California's subsequent new regulations. Again, IAPMO actively opposed any type of reuse. Despite that opposition, California's greywater code was changed in 1997 to specifically allow underground drip and multi-family greywater systems.

Stunned by California's second rejection of their greywater disposal mentality, in 2003 IAPMO published a new greywater "irrigation" code of their own that allowed the underground disposal of greywater through shallow leach fields that were unlike anything anyone had ever used for any kind of irrigation and were nothing but disposal systems by every definition of the word.

IAPMO's new greywater code, however, allowed IAPMO to formally inform the State of California that it has a long-standing agreement to adopt the latest version of the UPC that IAPMO produces, with the caveat that California reserves the right to reject certain parts in that code for cause. California now had to adopt IAPMO's worthless version of greywater irrigation.

IAPMO's ploy put the onus of changing an entirely regressive code word by word, or line by line, or section by section, onto the State of California. This tedious process now plays out every three years right after IAPMO's Triennial code adoption process that forces California to read every word of IAPMO's tens of thousands of words in their massive Uniform Plumbing Code to determine what parts of their UPC our state doesn't want in our CPC.

Slowly and deliberately, IAPMO has inserted language into the UPC every three years that has needlessly restricted greywater reuse, always ostensibly for public "health and safety" reasons. We will understand from reading the discussion below of new Section 1506.7 that IAPMO's supposed concern about public health and safety is just a farce.

By 2009, it became apparent to the Legislature that DHS and DWR were not doing anything to update or even protect California's greywater reuse code, so SB1258 (Lowenthal, Long Beach) was passed. SB1258 transferred the greywater code responsibility to the Department of Housing and Community Development, which is responsible for most building code regulations anyway.

Like AB3518 and AB313 before it, SB1258 required a serious new look at greywater reuse and it required a sustained collaborative effort on the part of water agencies,

health, safety, environmental, and building departments, public health experts, HCD staff, building trades, NGOs, the established greywater irrigation industry, and public.

DPH testified that even with an estimated 1.4 million illegal greywater systems in the state, most consisting of a laundry machine dumping raw greywater on the soil's surface, there wasn't a single case of a human health related incident tied to greywater. As conservative as DPH is, their point was that raw greywater without kitchen water isn't nearly as bad as some plumbing code regulators were making it out to be.

Since that time, dozens of California water agencies, city development departments, and other municipal entities formed rebate and other incentive programs to encourage the use of greywater irrigation systems. Many more invested in the production of greywater information for the public. The federal stimulus package for the great recession included training for greywater installers. Greywater irrigation manufacturing companies invested in production, marketing, and supporting their products.

California then experienced its worst drought in recorded history. The facts are still out on whether California has actually entered into an extended dry cycle not unlike the devastating dry cycles documented by scientists studying ancient tree rings. Despite the obvious need for more water reuse, some plumbing code regulators located at various building departments in California were extra-legally restricting the state greywater code for no good reasons. Their ploy to usurp the Legislature's role in creating building codes and water reuse policies suitable for California was met in 2013 with the passage of AB849 (Gatto, Burbank), which specifically made it illegal for regulators to administratively restrict California's greywater code.

Despite that warning from the Legislature, IAPMO continues to insert language into the UPC that chips away at the viability of greywater irrigation and makes California fight every three years to keep what it wants in the CPC. Arizona became so disgusted with IAPMO's paranoid disposal mentality that it dropped its long-standing agreement with IAPMO to use IAPMO's Model plumbing code and adopted the International Plumbing Code that allows much more sensible regulations for greywater reuse.

California should do the same, again. At the absolute very least, California should maintain the Legislature's stated intent for this code in this code.

II. 1503.1(a) (formerly 1502.1) General *and* 1503.2.2 (Formerly 1502.2.2) Diversion.

1503.1 (Formerly 1502.1) General. The provisions of this section shall apply to the construction, alteration, and repair of gray water systems. *A city, county, or city and county or other local government may adopt, after a public hearing and enactment of an ordinance or resolution, building standards that are more restrictive than the gray water building standards adopted in this code. For additional information, see Health and Safety Code Section 18941.7.*

(A) All gray water systems shall be designed with a diverter valve to allow the user to direct the flow to the building sewer and either the irrigation field or disposal field, whichever is used. The means of changing the direction flow of the gray water shall be clearly labeled and readily accessible to the user.

1503.2.2 (Formerly 1502.2.2) Diversion. The gray water system shall connect to the sanitary drainage system downstream of fixture traps and vent connections through an approved diverter valve. The diverter valve shall be installed in a readily accessible location and clearly indicate the direction of flow.

ACTION REQUESTED: Insert an exception in these two sections that exempt the requirement for diverter valves on systems with tanks that overflow to the sewer by gravity, such as **“Exception: A diverter valve is not required for systems with a gravity overflow from the surge tank to the septic/sewer.”**

ISSUE: A diverter valve is not needed in a system with a greywater surge tank that overflows by gravity to the sewer, and all permitted systems with a tank must overflow by gravity to the sewer or to some other sewage treatment method.

Contrary to a common misconception, for a system with a tank, which requires a pump and overflow, a diverter valve provides no safety, environmental, cost, or any other benefit over a system with a tank without a diverter valve. To elect to send greywater to the septic/sewer, the pump can merely be switched off, a much simpler operation in all respects than switching a valve. If said pump is controlled by an irrigation controller, the irrigation controller can simply be turned off.

If the tank has a pump, and the pump needs work, or there’s a leak in the tank, or a crack in a pipe within or near the tank, or whatever the problem with, in, or around the tank, said tank is either already full, partially full, or empty of greywater so diverting incoming greywater makes no difference. Regardless of the amount of greywater in that tank, at that point, the industry-accepted standard plumbing practice for working on, in, or around that tank is to simply require that nobody produce more greywater while the repair is being made.

Sewer ejector tanks don’t have diverter valves and plumbers and others work on, in, and around those tanks by simply requiring that nobody produce sewage while they are working. They can certainly require that no greywater be produced while they work on, in, or around a greywater tank. In fact, requiring that no greywater be produced while they work is the only action they can take to allow them to work on, in, or around a greywater tank. A diverter valve is superfluous.

Diverter valves were eliminated from this code in 1997 for this very reason, but such valves were subsequently required later for no reason other than IAPMO thought it would supposedly be handy to have one.

Contrary to a misconception spread by some in the regulatory sector, while a diverter valve may seem simple and inexpensive at the cost of fifty to two hundred dollars, the cost of the diverter valve itself is only a small fraction of the cost of adding that valve prior to a greywater surge tank buried in the ground or underneath a concrete floor, where most single-family surge tanks are placed and where virtually all multi-family surge tanks are placed.

Also, placing a diverter valve on a horizontal pipe (the greywater source pipe) connected to another horizontal pipe (the sewer pipe) requires a backflow valve to keep some of that water from simply returning to the first pipe in most instances.

Further, the addition of the diverter valve and its accompanying backflow valve necessitates a wide access opening at the soil surface or in the floor of the building in order to physically turn the diverter valve and/or clean the backflow valve, and the access opening itself requires an approved covering. Altogether, this "readily accessible diverter" mandate on all systems easily adds over a thousand dollars to the cost of a system that already overflows to the sewer, for no benefit.

Worse, if the pipes and thus valves in question are more than about 24" deep, and most are, installing and maintaining this diverter and its backflow valve necessitates a manhole to access the piping, with an approved covering for that manhole, which adds thousands of dollars in parts acquisition and labor costs, all for no benefit. Worst of all, if that tank is located where vehicles could drive over the manhole cover, like in a parking lot, where many multi-family system tanks are located, that traffic-rated manhole and its cover costs even more money, again all for no benefit.

This backflow valve downstream of the diverter valve needed to keep greywater flowing towards the sewer can almost never be the same backflow that is required by section 1503.9.7 of this code. This backflow valve must be downstream of the diverter valve to keep greywater mixed with sewage from coming back into the greywater source pipe and/or greywater tank through the diverter valve. The section 1503.9.7 backflow valve must be upstream on the greywater line adjacent to the building to keep any type of wastewater, from either the sewer on one leg of the diverter, or the greywater tank on the other leg of diverter, from re-entering the building.

This single issue of a diverter valve and its backflow valve has caused many single-family potential greywater owners to conclude that an installed legal greywater system, when all the costs are added up, is just too expensive to justify for the sake of water reuse. Collectively, their decision has resulted in the loss of countless labor hours to plumbing and landscaping tradesmen and countless millions of gallons of water reuse.

III. Water Systems 1503.1(i) and 1503.3 (Formerly 1502.3) Connections to Potable and Reclaimed (Recycled)

1503.1(i) A gray water system shall not be connected to any potable water system without an air gap, reduced-pressure principle backflow preventer, or other physical device which prevents backflow and shall not cause ponding or runoff of gray water.

1503.3 Gray water systems shall have no direct connection to a potable water supply, on-site treated nonpotable water supply, or reclaimed (recycled) water supply systems.

ACTION REQUESTED: Add language in both sections allowing the use of both RPs and air gaps such as “Exception: Connections protected by either a Reduced Pressure Principle Device (RP) or an air gap are allowed.

ISSUE: Section 1503.1(i) allows either a Reduced Pressure Principle Device (RP) or an air gap to protect the fresh water supply from a greywater irrigation system, but section 1503.3 contradicts that section to the detriment of the public.

RP's have been used for over twenty years to safely protect the fresh water supply on greywater irrigation systems and are preferred by most fresh water purveyors and cross control specialists. RP's have a flawless history in this application and such proves they work correctly.

RP's are believed by many cross control specialists and building inspectors to be the highest level of water protection on a greywater irrigation system for a number of reasons. First, RP's have proven over generations of use to be dependable in millions of applications ranging from the health care industry, to food service, to hospitals, to greywater irrigation systems. Second, RP's are regulated under Title 17, which requires an annual inspection to insure they are still working properly. Third, these inspections discourage the user from disconnecting the RP and that insures perpetual fresh water protection. RP's have been by far the most widely accepted form of cross connection control on greywater irrigation systems in California.

Only Los Angeles County and the City of Los Angeles require an air gap to protect the public water supply from a greywater system. Due to an inter-agency permitting agreement between these two agencies, they are essentially legally the same now when it comes to greywater irrigation system permitting and inspections. For purposes of this RP v. air gap issue, we will refer to them collectively as “Los Angeles”.

While air gap separation may sound like a good idea to some LA regulators, there is no reinspection required for air gaps, air gaps are notorious for causing messy splash, and the maintainers of systems using air gaps (not just greywater irrigation systems) are known to eliminate that splash by simply closing the air gap, thereby eliminating all

protection of the fresh water supply. For those reasons, air gaps are not the preferred method of fresh water protection for most building and safety officials and cross connection specialists in this state.

The Los Angeles requirement for an air gap also comes at a tremendous monetary price too. Water sent through an air gap must be re-pressurized before it can be of any use in a pressurized irrigation system such as a greywater irrigation system, such as for supplemental irrigation when the owner is away on vacation, or backwashing the filter to keep it operational. With an air gap, any fresh water must be sent into either the greywater surge tank itself, which defeats the purpose of the greywater surge tank, or it must be sent into a separate tank. When fresh water is sent into a separate tank, a separate pump is required. That separate pump has to have separate controls. Those separate controls need separate wiring. All of that generates additional costs.

A separate tank large enough to serve any purpose in greywater irrigation, that meets the construction requirements for water storage, costs anywhere from \$1,000 to \$5,000 depending on the size requirement. Pumps and controls cost in that same range. Then there are the electrical costs. And then there is labor. Altogether, the LA air gap requirement results in almost doubling the cost of the filtration portion of a greywater irrigation system.

It is no wonder that the massive metropolis of the City of Los Angeles, which has to import the vast majority of its water from hundreds of miles away at tremendous cost to the environment both at the source in terms of degradation and at the destination in terms of air pollution from pumping has permitted fewer than 100 greywater irrigation systems since California legalized greywater irrigation in 1994.

By far the most cited reason for the City of Los Angeles having such an abhorrently disproportionate low number of permitted greywater irrigation systems is the outrageous cost of a system in their jurisdiction. Air gaps are the reason for that exorbitant cost, and with no benefit over RP-protected systems.

We can categorically state from our almost three decades of experience with greywater irrigation that there are substantially more unpermitted single-family greywater systems in LA than permitted systems and the main reason for that is the absurd cost of a LA-approved system.

LA's choice of air gaps is not the path to follow. It has caused the loss of thousands of plumbing trades jobs, contempt for the permit process, the continued degradation of the environment, and overall it contradicts the intent of the Legislature stated in numerous greywater reuse bills passed over the last three decades.

IV. 1506.7 (Formerly 1504.7) On-Site Treated Nonpotable Gray Water Devices and Systems.

ACTION REQUESTED: Keep the current language except for the last sentence, which shall be amended to read **“Devices or equipment used to treat on-site treated nonpotable gray water for use in water closet and urinal flushing, surface irrigation, and similar applications shall provide water that meets the applicable water quality requirements for the intended applications as determined by the Public Health Authority having Jurisdiction”**.

ISSUE: Overwhelming evidence proves the NSF 350 Standard is seriously flawed, has actually endangered the public, and should not be used in this code, yet it’s still in the code.

As ReWater’s May 15, 2018 letter to HCD Deputy Director Kyle Krause details (attached as Exhibit 1), the otherwise renown National Sanitation Foundation (NSF) failed to include hair and lint in their greywater recipe used for their testing of greywater systems under the NSF/ANSI 350 standard they published and that failure allowed systems to pass their 350 test but quickly and miserably fail in the real world where real greywater always has a tremendous amount of hair and lint.

ReWater’s letter explains that because any NSF approval guarantees to the public that the system can operate in the real world for 6 months under the manufacturer’s declared maintenance program, numerous people bought and installed Nexus eWater’s highly advertised NSF 350-approved systems and every one of those systems quickly failed despite that company’s repeated attempts to fix their systems in the field.

Almost every one of those NSF 350-approved systems are connected to a home’s indoor water supply for toilet flushing, and every one of them is connected to a surface irrigation system.

NSF was obviously negligent in creating their 350 Standard, and Nexus eWater acted in bad faith by selling those systems to the unsuspecting public knowing their systems had been tested with none of the debris that had clogged their systems both before and after the NSF 350-approval, in other words, the entire time they’d been selling the systems. Regardless of who is most at fault, there are now numerous failed NSF 350-approved systems out in the public whose owners are trying all sorts of things to make their toilets and surface irrigation systems work with unfiltered, untreated greywater.

In addition to those failed NSF 350-approved systems being a public health nuisance, they have cast an extremely negative light on the entire greywater irrigation industry. California’s code should not mention the NSF 350 Standard as anything but a total failure and should instead provide the public guidance about how to safely remove and dispose of those systems.

When ReWater's Owner, Steve Bilson, attended IAPMO's two-day Triennial adoption process on May 17-18, 2018 in Ontario, California, he testified to the UPC Technical committee about NSF 350's serious faults, offering evidence of Nexus eWater's well documented problems with their NSF 350-approved systems failing and that company going out of business because of those failures despite spending millions of dollars. He presented the committee with his letter to Kyle Krause at HCD and discussed it. When the Committee Chair asked NSF's representative about Nexus eWater's failing NSF 350 – approved systems, that representative did not deny the allegations.

Litigation-wary and PR-savvy NSF had already admitted in a letter sent to IAPMO prior to IAPMO's Triennial 2021 code adoption process, which was discussed by IAPMO staff during IAPMO's debate on this subject, that NSF was not ready to include NSF 350 into the UPC for commercial systems.

But, almost unbelievably, rather than table the matter of including NSF 350 as a Standard in the UPC for further investigation, in a blatant display of their disregard for IAPMO's well published claim that their "number one goal is to protect the health and safety of the nation", IAPMO instead kept the NSF 350 Standard for small systems in the UPC, added NSF 350 as a Standard for Commercial Systems, then forwarded the entire UPC to California to tediously sort through.

It should be noted here that NSF describes the 350 Standard as the NSF/ANSI 350 Standard. The American National Safety Institute (ANSI) exists to promote business. Their stated mission is "(t)o enhance both the global competitiveness of U.S. business and the U.S. quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems, and safeguarding their integrity".

The Vice Chair of ANSI's Board of Directors and Chair of ANSI's Finance Committee is IAPMO's CEO. The Chairman of ANSI is also the Chairman and CEO of NSF. It can safely be assumed that these three entities have very similar motives.

It should also be noted here that both NSF and IAPMO make millions of dollars a year by issuing "listings" for the products they test based on the Standards they create.

Further, it should be noted that NSF has taken monies from several companies for NSF/ANSI 350 testing and approval listings including Nexus eWater and would probably need to refund those monies once the public understands that NSF 350 is fatally flawed and those systems actually never could have functioned in the real world of greywater that always has hair and lint as is guaranteed by the NSF with their approval and listing.

The permits issued for NSF 350-approved systems installed in California need to be revoked or minimally the systems installed under those permits need to be reinspected due to the fact that NSF/ANSI 350 is fatally flawed and the indisputable evidence is that NSF/ANSI 350 is the reason those flawed systems were allowed into the marketplace.

But here we are, tediously discussing the continued inclusion of an obviously defective Standard in IAPMO's model plumbing code presented to California by IAPMO after IAPMO had been duly warned of that defect but summarily rejected the warning. IAPMO's refusal to withdraw NSF/ANSI 350 and worse to add NSF/ANSI 350 for commercial systems was an egregious breach of the public trust.

NSF has convened a focus group to study how to change NSF/ANSI 350 so it accomplishes what they originally meant it to accomplish. However, NSF has not yet produced a new NSF/ANSI 350 Standard or publically admitted the current NSF/ANSI 350 standard has allowed patently defective systems to be sold to the public that are now failed in the field.

ReWater's owner, Steve Bilson, personally knows about NSF's study group, called the WWT Task Group on NSF/ANSI 350, because when he called NSF in April 2018 and complained about NSF giving NSF 350 approval to the patently defective systems then being sold by the now defunct Nexus eWater corporation that were destroying the public's acceptance of greywater irrigation, after talking about it all with a technical employee, two NSF corporate executives called him back and ultimately asked him if he'd participate in their study group on fixing the NSF/ANSI 350 Standard. Many of these communications went back and forth via emails. ReWater has those emails to prove all of this is true.

NSF's latest email announcement of the next meeting of their Task Group on NSF/ANSI 350, dated October 22, 2018, is hereby attached as Exhibit 2. NSF/ANSI 350 has already set the greywater irrigation cause back a decade.

The NSF 350 Standard must be removed from the CPC or the public health and safety will just be more endangered.



May 15, 2018

Kyle Krause, Assistant Deputy Director
Department of Housing and Community Development
Division of Codes & Standards
1800 Third Street
Sacramento, CA 95811-6944

RE: Request to remove NSF 350 from Chapter 15 of the CPC

Dear Mr. Krause:

Since our phone call when I told you about the demonstrated problems with NSF 350, a lot more evidence has surfaced showing NSF 350 must be withdrawn from the CPC.

NSF's greywater testing "recipes" that I warned you about being grossly deficient due to the lack of hair and lint are found in section 8.1.2.1.1, page 13, and section 8.1.2.1.2, page of NSF's 350 Standard. Note that neither hair or lint is included as an ingredient, and the "screened" effluent is the only ingredient that might possibly once had hair or lint.

By not including the two main sources of real greywater debris, hair and lint, into their laboratory greywater "recipe", NSF created a testing liquid that does not come even close to replicating the physical properties of real greywater.

Part of NSF's 350 testing process says that the system shall be tested for 6 months and be able to withstand all anticipated types of loading throughout that entire time without any help from the manufacturer other than what the manufacturer claims in their owner's manual is "routine maintenance". But NSF didn't load the tested systems with real greywater, so of course those systems passed NSF's laboratory test.

However, NSF's approval guarantees to the public that the system can operate in the real world with real greywater for at least 6 months without anything other than said routine maintenance. But once out in the real world where real greywater has hair and lint, those NSF-approved systems clog up within hours, or days, maybe weeks at the most.

Since we spoke, despite spending over \$6.9 million of investors money marketing, selling, installing and then trying to make their NSF 350-approved systems function properly in the real world of greywater with hair and lint, Nexus eWater has gone out of business, and it's only a matter of time before the other two systems approved under NSF 350 cause their manufacturers to withdraw their systems from the market or go out of business as well.

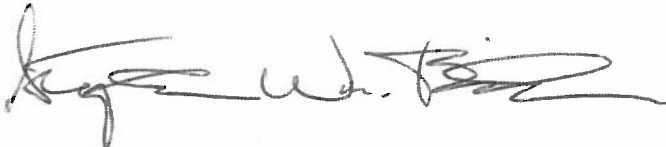
Kyle Krause
May 15, 2018
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Every person or company that purchased a Nexus eWater system is now stranded with a failed system, and every person or company that purchased one of the other brands of NSF 350-approved system will probably be in the same situation soon.

Based on my over 28 years in the greywater reuse industry, it is my belief that NSF was completely negligent in adopting its 350 Standard, but in any event, the NSF 350 standard absolutely should not be in the CPC as it has led to the installation of many defective greywater systems that will surely lead to public health problems.

If this request is received too late to be considered during any 45-day or 15-day comment period for any existing code adoption or revision process that is now in process, then please consider it a formal request for an emergency revision to Chapter 15 of the CPC.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Wm. Bilson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Stephen Wm. Bilson

From: **Snider, Jason** jsnider@nsf.org
Subject: [wwt_tg_350] Reminder for next week's teleconference
Date: October 22, 2018 at 8:20 AM
To: wwt_tg_350@standards.nsf.org



Hello WWT Task Group on NSF/ANSI 350,

A reminder that the group will hold a teleconference next week.

The Draft agenda is attached; call-in information is below.

October 29, 2018

11:00 am EDT Start Time

To join via Computer:

<https://bluejeans.com/6538656379>

To join via phone:

1) Dial:

+1.408.740.7256 (United States)

+1.888.240.2560 (US Toll Free)

+1.408.317.9253 (Alternate number)

2) Enter Conference ID: 6538656379 followed by #

Jason Snider

Standards Development Liaison

NSF International

734.418.6660



Agenda - WWT
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