Division of Environmental Remediation

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Monitoring and Maintenance Guide for Owner Installed Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) Drinking Water Treatment Systems

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CONTENTS

FIGURES

APPENDICES

Introduction

The New York State Department of Health (DOH) and Department of Environmental Conservation (DEC) continue to adapt strategies to eliminate per- and polyfluoroalkyl Substances (PFAS) from our water and communities, and through direct action and regulation, work to reduce PFAS exposure. The Private Well PFAS Testing and Mitigation Rebate Pilot Program (the "Program") by the DOH, DEC, and Environmental Facilities Corporation (EFC) was created to provide financial assistance to property owners in participating counties to test and install water treatment at eligible properties. The program aims to address a gap in private well PFAS monitoring and treatment by assessing and mitigating PFAS in private drinking water supplies where no specific industrial source of the contamination nor responsible party has been identified. When drinking water PFAS mitigation is recommended, affected property owners can receive rebates after installing eligible systems and post-treatment water testing confirms mitigation effectiveness. Since the State does not regulate contaminants in individual water supplies (i.e., private wells), NYS public water maximum contaminant levels (MCLs) determined by the New York State Department of Health (DOH) are used as guidelines to recommend actions to reduce potential human exposures to contaminants.

The rebate is intended as a one-time reimbursement to offset owner costs associated with the initial installation of a PFAS treatment system or connection to a municipal water system, if available. Treatment systems can be point-of-entry treatment (POET) or point-of-use treatment (POUT) systems. Rebates for a connection to a public water supply are also available through the program but require no regular maintenance on the part of the homeowner so are not included in this manual. POET systems treat all water entering a structure while POUT systems only treat water at certain faucets for drinking or cooking purposes. POET systems provide a greater level of protection compared to POUT systems and therefore are the preferred PFAS treatment. Applicable treatment media for POET systems include granular activated carbon (GAC) and ion exchange resin. A broader range of media/technology is applicable for POUT systems (e.g., GAC, carbon block, reverse osmosis (RO), ion exchange resin).

Ongoing maintenance costs are not covered under this Program and are the responsibility of the owner. This guide provides general recommendations for private well and transient non-community public water supply well owners who have installed a treatment system. This Guide can help identify operation and maintenance needs that are typical of approved PFAS treatment systems. It offers a general reference to support keeping the treatment system in good working order. This Guide is not intended to address all operation and maintenance requirements, and owners should always refer to the instructions and guidance provided by their own water treatment professionals or issued by their specific equipment manufacturers as their primary source for operating and maintaining their treatment systems. Property owners are encouraged to contact a qualified water treatment professional to assist when needed.

PFAS Private Wells Resources

- Reducing PFAS in Private Wells
  https://extapps.dec.ny.gov/docs/remediation_hudson_pdf/pfasprivatewellsfs.pdf
- Private Wells: Protect Your Family's Water
  health.ny.gov/privatewells
- Chemicals and Health: New York State PFAS, Exposure and Health Projects
  health.ny.gov/ChemicalsandHealth

1 PFAS TREATMENT SYSTEM DESCRIPTIONS

1.1 POINT OF ENTRY TREATMENT (POET)

POET systems are whole-house treatment system that filter water from private wells. Water is filtered through treatment media, such as granular activated carbon (GAC) or ion exchange resin. These media remove PFAS contaminants prior to distribution through household plumbing. POET system components can vary and are typically installed by a licensed plumbing or water treatment professional. The treatment media, number, and size of treatment filter canisters/ vessels, and other associated plumbing components are often influenced by site-specific factors such as space limitations. Homeowners should work closely with the water treatment contractor to understand the maintenance needs to ensure effectiveness at reducing PFAS over time and address any potential treatment limitations.

While not applicable to every POET system, the following treatment scenario describes what may be considered a typical GAC or ion exchange resin treatment installation in a single-family home. In general, the extracted groundwater from a private well is plumbed to an existing pressure tank typically located within the basement or utility space of a home. In many cases a spigot or tap associated with the pressure tank is already present, or a tap may be installed after the pressure tank to capture samples of raw untreated water for analysis when needed.

Water is then routed to a sediment/ pre-filter that captures potential particulate matter from the well, which could foul treatment media and reduce water pressure. The water may flow through a flow restrictor to prevent excessive water flow from exceeding treatment capacity, and then through a flow meter to measure water usage. Next, the water flows into the first (lead position) of two GAC or ion exchange resin filter canisters. A sample port is installed after the first treatment media canister for potential analysis of mid-treatment water samples. Water is then routed through a second (lag position) treatment media canister to provide redundancy if contaminants break through the first treatment media canister. After passing through both treatment media canisters, the water may then be routed through existing water softener equipment if present, however the water softener equipment may be placed prior to the treatment media treatment canisters. Finally, the treated water is routed through a disinfection unit, typically ultraviolet (UV) light, where the water is disinfected and then flows directly into the existing plumbing for use within the building structure. A sample port is installed after the treatment media canisters or UV disinfection unit to capture post-treatment samples and assess treatment system efficiency at removing PFAS.

Figure 1 attached to this Guidance Manual depicts a typical POET system. Overall configuration and actual components used may vary based upon site specific variables such as available space and existing plumbing.

1.2 POINT OF USE TREATMENT (POUT)

Point of use treatment (POUT) system are smaller filters attached at or near faucets or other points where water is dispensed for use. A POUT system is a water treatment device to reduce or remove PFAS contaminants in drinking water at a specific location only. Typically, a POUT system would apply when installation of a “whole-house” POET system is not feasible, such as homes where space is limited or where a typical network of distribution pipes throughout a

structure does not exist. An example would be a home where smaller carbon filtration is installed beneath a kitchen sink, to treat the water consumed from the kitchen tap. POUT systems typically incorporate between one and three carbon-based filters, and generally do not include a disinfection component. Figure 2 depicts components of a typical POUT system using carbon block filter canisters. Overall configuration and components may vary based upon site specific variables such as available space and existing plumbing. Reverse osmosis (RO) treatment units are also commonly installed as a POUT system. RO systems typically consist of a semipermeable membrane with both sediment and carbon filters to remove contaminants.

2 DRINKING WATER SAMPLE COLLECTION

After POET or POUT system installation, collecting representative water samples from pre-treatment and post-treatment taps will confirm that your system is treating your drinking water effectively. During routine use, periodic collection and analysis of water samples from your treatment system can help determine when an exchange of the treatment media may be necessary. Over time (typically after several years for a POET system) the treatment media will begin to reach its treatment capacity and contaminants will start to break through and be detected in downstream water. POUT systems typically use filtration with less treatment capacity and contaminants can be prone to break through in less than a year depending on site specific variables, requiring replacement of filtration media.

Contamination breakthrough is often first seen in the mid-treatment samples, where the first (lead) treatment media vessel reaches treatment capacity, and the second (lag/ backup) treatment media vessel begins providing treatment. Eventually the treatment media in the lag vessel will also reach its treatment capacity, leading to contaminants appearing in post-treated drinking water unless fresh treatment media is installed. In general, regardless of the type of treatment system installed, the chosen treatment technology will have capacity limitations. Periodic analysis of water samples will assist in identifying when fresh filters or treatment media should be installed. Refer to your manufacturer instructions and specifications and discuss a long-term maintenance plan with your water treatment contractor to maintain your system effectively.

To reduce sampling costs, homeowners may consider collecting samples from only the mid-treatment and/or post-treatment sample ports. For many single-family homeowners with a typical full-sized POET system, a sample collected on an annual basis from the mid-treatment sample port (between first and second treatment media vessels) can be effective to evaluate when an exchange of fresh treatment media is necessary. Pre-treatment (raw water) and post-treatment (after second treatment media vessel) samples may also be collected if further data is desired. When water testing results indicate that the treatment media needs to be exchanged, fresh treatment media should be installed so the system continues to successfully remove PFOA and PFOS from your drinking water. This process typically involves installing a fresh treatment media vessel to replace the second vessel in the system and moving up the second vessel to be first in line on the system. The frequency of media replacement depends on the typical water usage for your household (monitored through POET system flow meter), system

capacity, and contaminant concentrations. Treatment media may last several years or more under normal conditions before needing replacement. Systems with higher water usage or other site-specific factors affecting treatment may consider more frequent sampling. Over time, a routine sampling effort will provide data for residents to determine the general anticipated lifespan of the treatment media.

You can find a laboratory to test your PFOA and PFAS in your water at: https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/. You should coordinate with your lab and perform sampling in accordance with lab-provided guidelines, or contract with a qualified water treatment professional who can perform sample collection. A list of identified water treatment contractors for select counties is available at the program website: health.ny.gov/PrivateWellPFAS.

When collecting samples for PFAS analysis, the sampler must use caution to minimize the potential for cross-contamination. Certain types of clothing, personal care products, and common household materials may contain PFAS. Similarly, pre-existing plumbing components such as thread-seal tape may also contain PFAS and be present in the vicinity of a treatment system location. Such items should be avoided when conducting sampling and PFAS-containing materials should not be included in any system components installed. Washing hands and donning nitrile gloves prior to handling sample containers and performing sample collection are important steps in avoiding cross-contamination issues and facilitating accurate drinking water data.

Before collecting a sample, the sample port spigot should be purged (flush approximately one-half gallon of water into a bucket) to allow for a representative sample. After purging, a sample may then be collected into the laboratory-provided sample bottle from the sample port. Care should be taken to restrict the time a bottle is open to only when the container is being filled with the sample, which will minimize potential airborne dust or fibers from entering the sample bottle. The bottle cap should not be set down, and the sampler should use caution to avoid touching the rim of the bottle or inside of the cap. Glove contact should be restricted to only the PFAS sample containers during the collection process. Laboratory-provided guidelines should also be followed to ensure a sample is obtained correctly for accurate analysis.

A general protocol for collecting samples associated with a POET or POUT system is included in Appendix A.

ROUTINE MAINTENANCE

2.1 POET MAINTENANCE

Routine POET maintenance activities typically consists of replacement of the pre-filter (sediment filter) and periodic maintenance of the UV lamp and sleeve. Exchange of the treatment media is required periodically to address potential contaminant breakthrough. Potential non-routine issues such as plumbing leaks should be identified during routine

equipment observations and addressed by a qualified licensed plumber when necessary. Some maintenance or repair requirements may not be readily performed by all owners, and owners are encouraged to contact a qualified licensed plumber or water treatment professional to assist when needed. This Guide is not intended to address all operation and maintenance requirements, and owners should carefully follow their manufacturer or water treatment professional's instructions for operating and maintaining their treatment system components. Your pre-treatment test results and the type of technology/ media your system uses to reduce PFAS play a role in determining the best long-term maintenance for your POET and it's beneficial to discuss a maintenance plan with your water treatment contractor.

Pre-Filter:

Appendix B provides general guidance on how to complete a pre-filter replacement for a typical unit. Refer to user guidance issued by your product manufacturer for specific requirements. The pre-filter removes potential incoming sediment from the private well and prevents particulate matter from entering the plumbing and treatment system. The frequency for pre-filter replacement varies depending on raw water quality from your well. Some locations may require monthly replacements to address potential impacts, while annual replacement may be sufficient at others. Observations for visible buildup on the filter and previous replacement history provide indications on how often the pre-filter should be replaced at a specific location. Excessive particulate accumulation, dark coloration, and experiencing reduced water pressure are indications a pre-filter needs replacement. Pre-filter supplies are generally available at retail outlets for homeowners maintaining their system. Homeowners replacing their own pre-filters may dispose of the used filters in their household trash provided it is then taken to a regulated and permitted solid waste landfill for proper disposal.

UV System:

A typical POET system includes a UV unit installed after the treatment media vessels, where the treated drinking water flows through ultraviolet light for disinfection purposes, before routing to existing plumbing and finished water use within the building. The UV systems require routine maintenance for effective operation, including replacement of the UV bulb, and cleaning or replacement of the quartz sleeve.

Refer to your manufacturer's user manual for maintenance requirements. They will describe recommended maintenance steps and safety precautions to avoid potential exposure to UV energy when performing maintenance needs. Many typical UV systems require lamp replacement annually, with the UV module providing a display notification when the lamp lifespan has expired (typically after one year). The quartz sleeve should also be inspected and cleaned or replaced periodically in accordance with manufacturer's recommendations. For owners performing UV maintenance, the replaceable components are generally available at retail or online sources through the manufacturer or other vendors of water treatment supplies. Owners are encouraged to contact a qualified licensed plumber or water treatment professional to assist when needed.

Similar to fluorescent lamp tubes, the UV lamp bulbs typically contain mercury and should be handled and disposed of responsibly. Homeowners should use care to avoid breakage, and

DEC encourages households to submit used UV lamps for recycling. Retail home improvement and hardware stores often collect mercury-containing lamps from the public at no charge. Households can also contact their town or county solid waste management authority to determine if there are any household hazardous waste collection facilities or events in their community.

UV systems are typically connected to ground-fault circuit interrupter (GFCI) electrical outlets which have the potential to trip and shut off power to the UV system under some circumstances. Owners should periodically check the UV system to confirm the power is on, particularly in cases of power surges or power loss associated with storm events, and to manually reset the GFCI outlet when necessary.

GAC:

Over time the GAC will begin to reach its treatment capacity and contaminants will start to break through and be detected in downstream water. Such breakthrough is typically first observed in mid-treatment samples, where the first (lead) GAC vessel reaches treatment capacity, and the second (lag / backup) GAC vessel begins providing treatment. Eventually the GAC media in the lag vessel will also reach its treatment capacity, leading to contaminants appearing in post-treated drinking water unless fresh GAC is installed.

When water testing results indicate that the GAC needs to be exchanged, fresh carbon treatment media should be installed so the system continues to successfully remove PFOA and PFOS from your drinking water. This process typically involves installing a fresh GAC tank to replace the second tank in the system and moving up the second tank to be first in line on the system. In the absence of current water testing data, you may also take a proactive approach by replacing GAC tanks periodically. Your historical sample results can help determine effective replacement timeframes. Depending on the typical water usage for your household, treatment media capacity, and contaminant concentrations, past sampling may indicate the GAC can last several years or more under normal conditions before needing replacement. Please discuss the most effective replacement timeframe with your water treatment contractor.

Replace GAC media is essential for effective treatment of your drinking water. GAC replacement in typical POET systems should be scheduled with a qualified licensed plumbing contractor or water treatment professional as necessary. In some cases, aged carbon may be affected by bacterial growth over time that can result in odor or taste concerns in the finished water, and may necessitate GAC replacement. When evaluating odor concerns, which are often based on site-specific existing water quality characteristics, observing for presence of odor at pre-treatment water compared to post-treatment can indicate whether the GAC is contributing odor in finished water. Increased odor at post-treatment not observed in the pre-treatment water can indicate bacterial growth on the GAC after extended use. Odor present in pre-treatment water is often due to specific well water quality issues. If an odor is observed in only hot water being used, that can often indicate an issue with existing water heater equipment, as opposed to treatment media.

When replacing GAC media tanks, the used spent GAC should be disposed of at a regulated and permitted solid waste landfill facility in coordination with your water treatment contractor to ensure proper disposal in accordance with waste regulations.

Ion Exchange Resin:

Similar to POET systems using GAC, systems installed with ion exchange resin as the treatment media also require replacement of the resin media to continue effective treatment. Depending on the typical water usage for your household, treatment media capacity, and contaminant concentrations, sampling may indicate the resin can last several years or more under normal conditions before needing replacement. Refer to your product manufacturer's owner manual or consult your water treatment contractor for details on maintaining your specific treatment system. Resin replacement in typical POET systems should be scheduled with a qualified licensed plumbing contractor or water treatment professional as necessary. When replacing ion exchange resin tanks, the used spent resin media should be disposed of at a regulated and permitted solid waste landfill facility in coordination with your water treatment contractor to ensure proper disposal in accordance with waste regulations.

Other Maintenance Considerations:

System owners leaving their property for several weeks or more, where the water supply is not being used (i.e. longer than two weeks), may experience water odor upon their return. Such occurrences are generally site-specific and result from existing water source quality characteristics, stagnant water, and bacterial growth on the treatment media. When odor is observed from extended inactivity, flushing the treatment system with approximately 100 gallons of water (by opening indoor faucets for a period of time), will often resolve the issue by removing the stagnant water from the system.

Where water odors are determined to be unrelated to the treatment media, are not restricted to hot water (meaning not resulting from water heater equipment), and are observed in the raw pre-treatment water from the well, homeowners should consult a water well professional to determine the cause of odors. If disinfection of the well is recommended, doing so should be performed in accordance with local health department guidance and recommended disinfection procedures, with the treatment system off-line (disconnected or in bypass), so as not to damage the treatment media and impair system performance.

A humid environment may exist where POET systems have been installed and is typical of basement settings, especially during warmer seasons. The humidity can result in condensation forming on the exterior of system equipment. The condensation has the potential to accumulate during humid conditions and may result in the pooling of condensate on flat surfaces near the system. Using a dehumidifier in the space where the POET system is located can help keep areas dry. You can also use neoprene insulating jackets on treatment canisters, insulating piping, or drip trays beneath system components to minimize potential impacts to surrounding surfaces.

Like any plumbing system, leaks can occur, and owners should be aware of their main water supply shut-off valve for cases when water supply should be stopped temporarily. Shutting off

the main water supply valve will stop further water leaks and allow for repair. Contact a qualified licensed plumbing professional when necessary.

2.2 POUT MAINTENANCE

POUT systems require routine maintenance to treat water effectively. Carbon block filters, RO filtration, and smaller GAC units are examples of treatment technologies used in POUT systems. Routine replacement of filtration unit components in accordance with manufacturer recommendations, or when necessary due to contaminant breakthrough, are important maintenance steps to ensure effective treatment of your drinking water. Potential non-routine issues such as plumbing leaks should be identified during routine equipment observations and addressed by a qualified licensed plumber when necessary. Property owners are encouraged to contact a qualified licensed plumber or water treatment professional to assist when needed. Maintenance factors noted below are general in nature and can vary depending on the product so it is important to review the manufacturers guidance and consult with your water treatment contractor regarding maintenance for your specific POUT system. Owners should refer to user guidance issued by their specific equipment manufacturers as their primary source for operating and maintaining their treatment system components.

Pre-Filter:

Routine replacement of the pre-filter is important to keep your system performing effectively. The pre-filter prevents sediment and particulates from fouling treatment filtration. Failure to replace the pre-filter proactively can result in reduced water pressure and reduce system performance. Refer to the Pre-Filter section above under POET maintenance for general guidance. Property owners replacing their own pre-filters may dispose of the used filters in their household trash provided it is then taken to a regulated and permitted solid waste landfill for proper disposal.

Carbon Treatment:

Many POUT systems use carbon block, GAC, or catalytic carbon treatment technologies to remove contaminants from drinking water. Routine replacement of the carbon treatment filters will enable the POUT system to continue removing PFAS in your drinking water effectively. Carbon filters have a limited capacity to effectively remove PFAS contaminants over time and must be periodically replaced to prevent contaminant breakthrough.

Replace your POUT carbon block, GAC, or catalytic carbon treatment filters at least once per year, or in accordance with manufacturer guidance, or when analytical results from a water test indicate that contaminant breakthrough is occurring. Depending on the typical water usage at the POUT system, treatment capacity, and contaminant concentrations, sampling may indicate the filters can be effective for several months or more before needing replacement.

Refer to your product owner manual for details on maintaining your specific treatment system.

Homeowners replacing their own POUT carbon filters may dispose of the used cartridges in their household trash provided it is then taken to a regulated and permitted solid waste landfill for proper disposal in accordance with waste regulations.

Reverse Osmosis (RO):

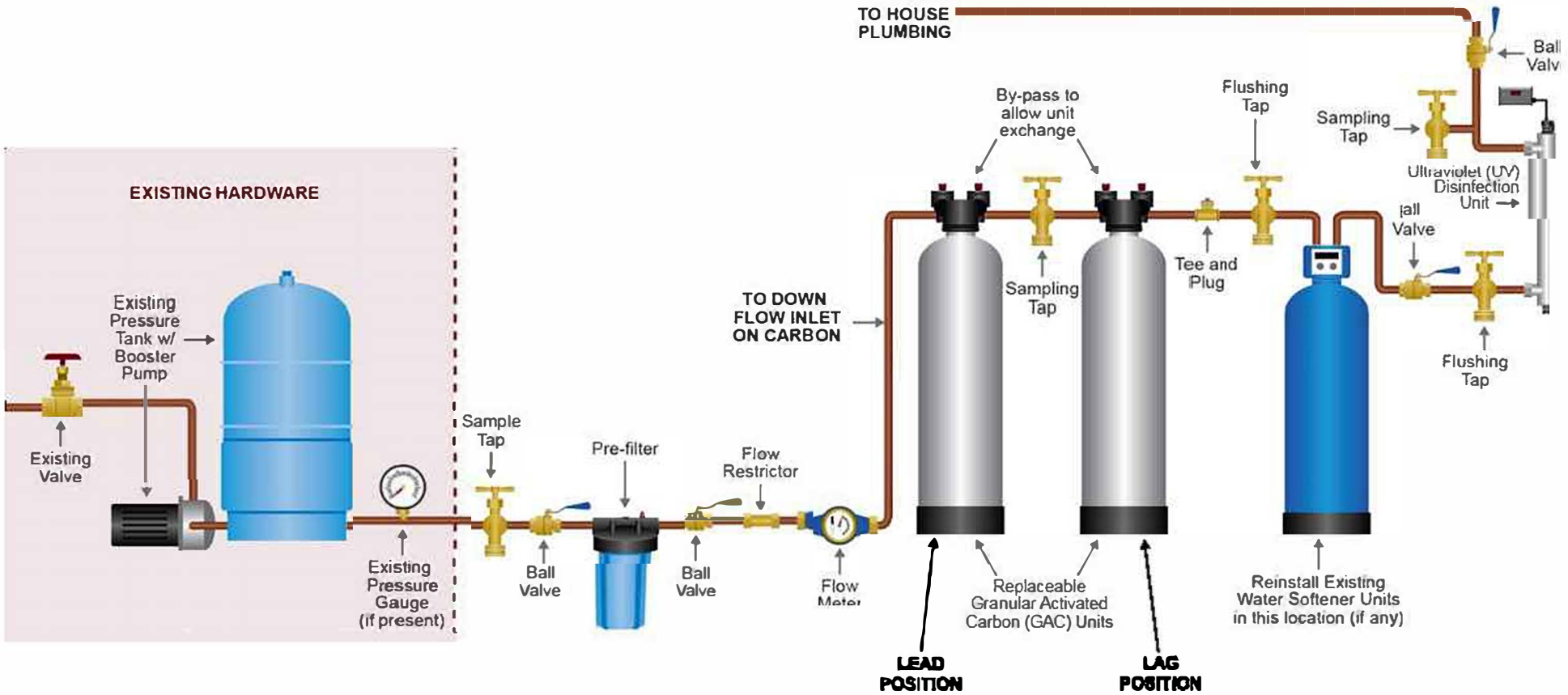
RO filtration utilizes a semi-permeable membrane to filter out contaminants. Many POUT systems using RO technology involve a multiple stage filtration process that requires periodic replacement of filter cartridges and the membrane filter when necessary. The multiple stage filtration typically includes a sediment pre-filter, pre-carbon, RO membrane filters, and post-carbon treatment incorporated into the overall system unit. Wastewater generated by the RO system is typically directed to a drain, while the filtered and treated drinking water is stored in a small pressure tank for use. The treated drinking water is typically dispensed at a dedicated faucet or tap. Based on the filtration and storage capacity process, point-of-use RO units generally have water use limitations. Water that has been retained in the storage tank for a period of time due to inactivity may develop taste issues until replaced with fresh filtered water. The system may need to be periodically sanitized to address bacterial presence and odor or taste issues that can develop.

Filtration cartridges and the membrane associated with the RO system should be replaced in accordance with manufacturer instructions, or when analytical results indicate that contaminant breakthrough is occurring. Sediment and carbon cartridges typically last several months or more depending on water quality and unit type, while the RO membrane may last several years before requiring replacement. Property owners replacing their own RO filtration components may dispose of the used cartridges in their household trash provided it is then taken to a regulated and permitted solid waste landfill for proper disposal in accordance with waste regulations.

Refer to your product owner manual for details and consult with your water treatment contractor to effectively maintain your specific RO treatment system.

PRIVATE WELL PFAS TESTING AND REBATE PILOT PROGRAM ASSISTANCE

Owners needing assistance in locating a maintenance professional in their area or requesting additional information relative to the Program should go to the DOH Program website at health.ny.gov/PrivateWellPFAS. In addition, owners are encouraged to contact the DEC POET Hotline at 888-459-8667 should they have any alternate water supply related technical questions.



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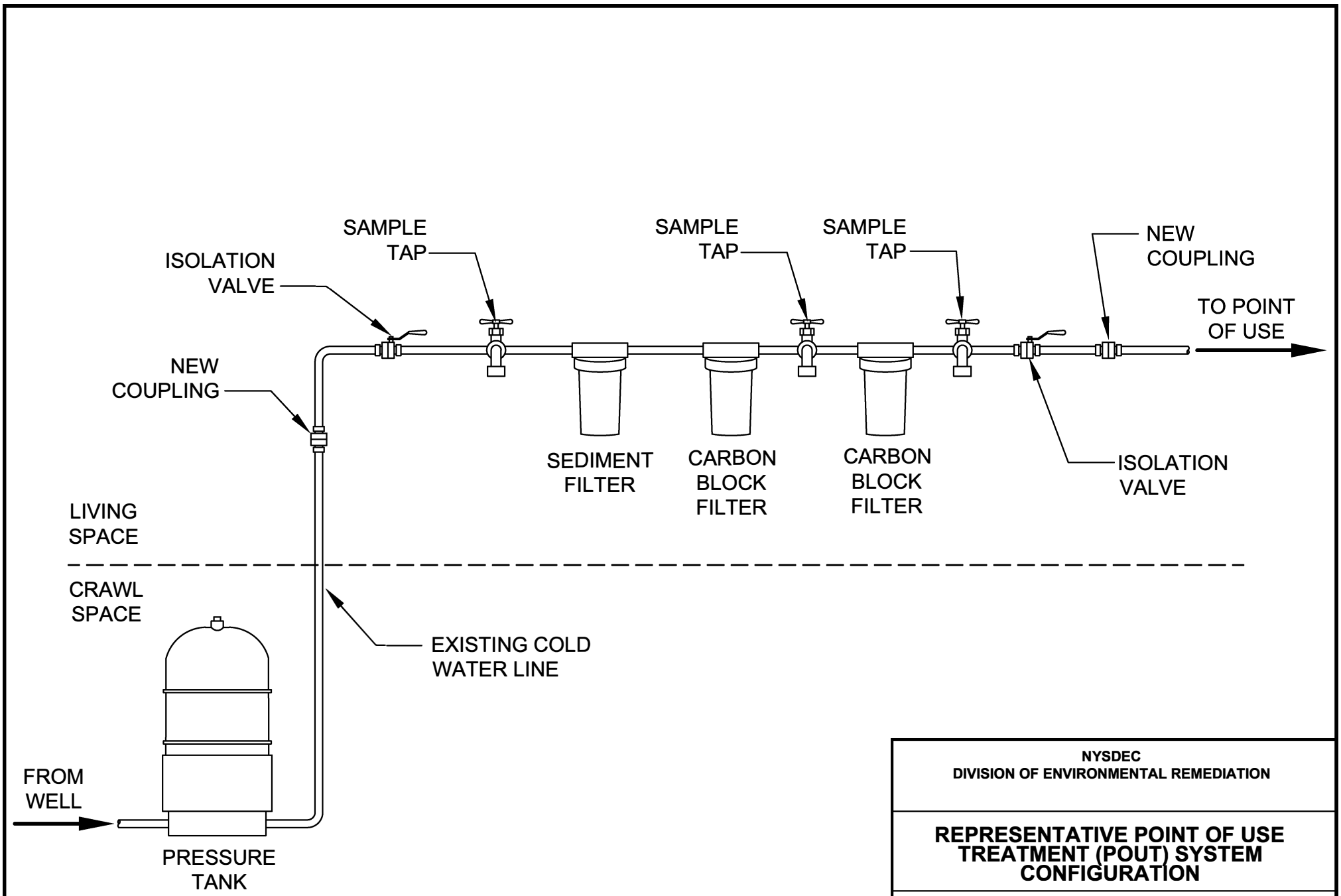
TYPICAL POINT OF ENTRY TREATMENT (POET) SYSTEM CONFIGURATION

Figure 1



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REPRESENTATIVE POINT OF USE TREATMENT (POUT) SYSTEM CONFIGURATION

Figure 2

Appendix A

POET & POUT Systems Drinking Water Sample Collection Protocol

The following protocol includes general steps applicable to collecting water samples for most homeowner drinking water treatment systems, where the contaminant of concern is per- and polyfluoroalkyl substances (PFAS), in particular, Perfluorooctanoic Acid (PFOA) and/or Perfluorooctanesulfonic acid (PFOS).

When collecting samples, owners should refer to guidance provided by their analytical laboratory, and / or guidance issued by their specific treatment equipment manufacturer. When necessary, owners are encouraged to contact a qualified water treatment professional to assist.

Analytical Methods:

- **Per- and polyfluoroalkyl substances (PFAS)**: via certified laboratory for EPA Method 537 or EPA Method 533.

Sampling Precautions:

- When collecting samples for PFAS analysis, the sampler must use caution to minimize the potential for cross-contamination. Certain types of clothing such as water and stain resistant materials, personal care products such as moisturizers and cosmetics, and common household items such as fabric softeners may contain PFAS. Similarly, household dust (airborne or on surfaces proximate to the treatment system), and pre-existing plumbing components such as thread-seal tape, may contain PFAS. Such items should be avoided when conducting sampling tasks.
- Washing hands and donning nitrile gloves prior to handling sample containers and performing sample collection are important steps in avoiding cross-contamination issues and facilitating accurate drinking water data. Care should be taken to restrict the time a bottle is open to only when the container is being filled with the sample, which will assist to minimize potential airborne dust and cross-contaminants from entering the sample bottle. The bottle cap should not be set down, and the sampler should use caution to avoid touching the rim of the bottle or inside of the cap. Glove contact should be restricted to only the PFAS sample containers during the collection process. Laboratory-provided guidelines can also assist in ensuring a sample is obtained correctly for accurate analysis.

1) Sampling Preparation

- Review instructions and guidelines provided by the laboratory. Review your chain of custody documentation requirements, sample bottle labels, and sample identification needs. Ensure each sample is identified correctly on your sample bottles and chain of custody to ensure accurate reporting.
- Only collect water samples directly from the opened tap into the laboratory-provided sample bottles. Transferring from separate containers risks cross-contamination.
- Ensure you have means to keep the samples chilled (on ice) after collection and for delivery to the laboratory in accordance with their instruction.
- Confirm that your treatment system is active and not in bypass. If your system was recently installed, water should be purged through the system and the household plumbing flushed with treated water (opening faucets as necessary) to remove residual untreated water.

2) Sampling Procedure

- Review the prepared sample bottle labels to ensure the labels are marked with the appropriate sample location (e.g., Pre-Treatment, Mid-Treatment, Post-Treatment). Typically for PFAS analysis, there are two bottles associated with each single sample, which allows sufficient volume for laboratory needs (e.g., if collecting samples at both Pre- and Post-treatment locations, there would be four bottles total, with two filled for each sample). Mark sample times for each sample set collected, and any other applicable information. Adhere the labels to the bottles.
- Prior to collecting a sample, the sample port spigot / tap associated with your system should be purged (flush approximately one-half gallon of water into a bucket or similar container) to allow for a representative sample. The purge water can be discarded down a drain. Complete this purging step at each tap you plan to sample.
- Sample bottles from the laboratory may contain a small amount of preservative (typically a crystalline powder) that should remain in the bottle and mix into solution with the water during sample collection.
- Wash hands, and then after donning a fresh set of clean nitrile gloves, collect the water samples using the sample bottle sets designated for each sample location.
- Open the bottles only when collecting the sample, and limit the time the cap is removed to only when filling.
- Start with collecting the Post-Treatment (finished / treated water) sample first, when collecting multiple samples (e.g., Pre-Treatment, Mid-Treatment, Post-Treatment). The intent is to limit the potential for cross-contamination from the Pre- and/or Mid-treatment sample collection.
- Collect the sample with a slow steady stream from the tap, filling the bottle to the neck, without overfilling. Secure cap immediately. Invert bottle several times to mix preservative.

- When applicable, proceed to collect Mid-Treatment next, and finish with the Pre-Treatment (untreated water) as the last sample set collected. When collecting a full sequence including raw untreated water, collecting the Pre-Treatment sample last reduces the likelihood of cross-contamination during handling and collection from contaminants present in the untreated water.
- When collecting each sample set, confirm that the information and sampling IDs identified on each bottle are correct and correspond to the location being sampled.
- Follow laboratory guidance and instructions, placing samples in a cooler with ice for prompt transport to laboratory as needed. Ensure lab documentation / chain-of-custody paperwork accompanies the samples, and accurately reflects the samples collected and analysis requested

APPENDIX B
TYPICAL WATER TREATMENT SYSTEM PRE-FILTER

How to Change the Pre-Filter

Step 1: Place a bucket under the pre-filter.

Step 2: Turn off the water supply using the two valve levers located on either side of the pre-filter (see diagram below for location of pre-filter and levers).

Step 3: Press down on the pressure relief button (if present on top of the housing cap/lid) to relieve pressure inside the filter container.

Step 4: Slowly unscrew (turn to the left) the filter container from below the housing. Do this by hand or use the filter wrench supplied with the filter system. A small amount of water may come out of the housing into the bucket. If the O-ring gasket comes loose, put it back in place around the top of the unit.

Step 5: Remove the used filter cartridge and discard it in your normal trash. Rinse and clean the inside of the filter container, if needed (there may be some natural sediment in the bottom).

Step 6: Insert a new filter cartridge into the filter container, making sure the cartridge is centered and slips over the small standpipe inside the container or attached to the housing cap/lid.

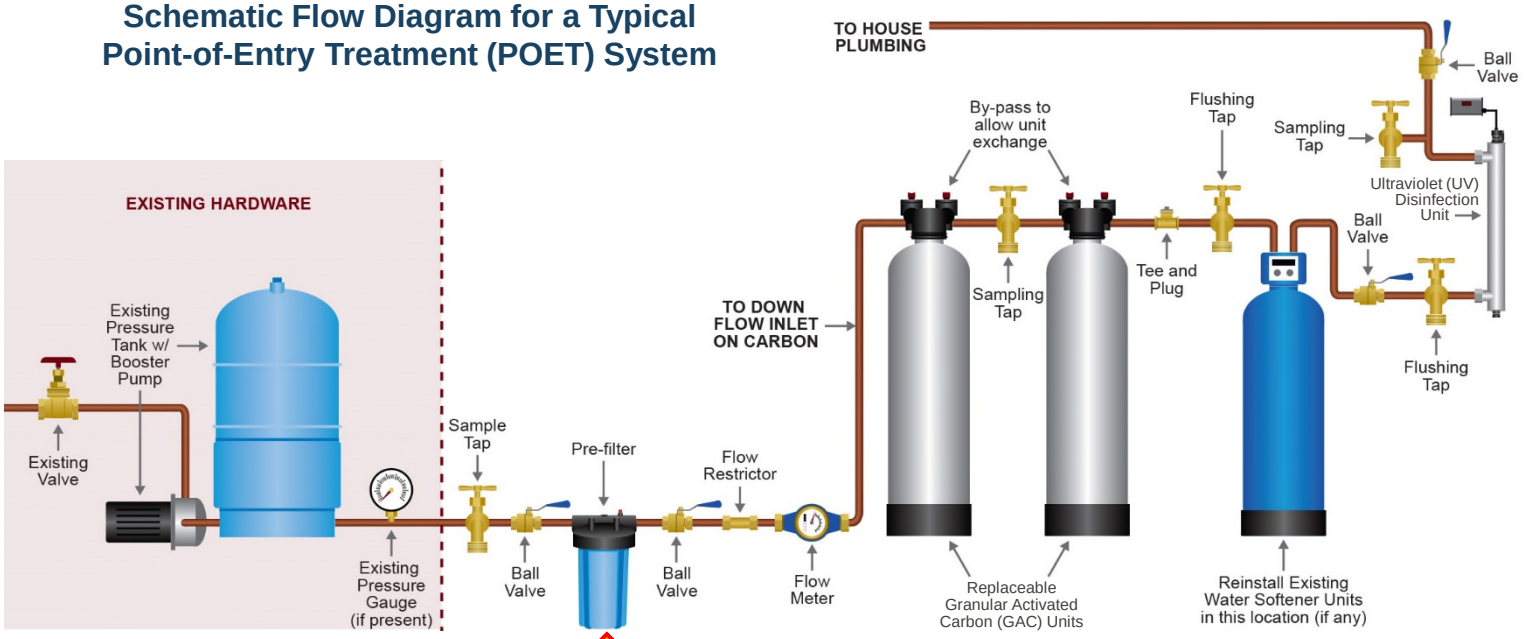
Step 7: Make sure the new filter is centered, and then screw the filter container back onto the housing cap/lid. Hand tighten it or use the filter wrench to tighten. DO NOT OVER-TIGHTEN.

Step 8: Slowly turn on the water supply again and allow the filter housing to fill with water.

Step 9: Press down on the pressure relief button again (if present) to release air that may be trapped inside.

Step 10: Check and inspect for leaks until the unit or system is pressurized. If water leaks from between the housing cap/lid and the filter container, please check that the O-ring gasket is in place and not damaged, and check that the filter was centered and fits easily between the filter container and the housing cap/lid.

Schematic Flow Diagram for a Typical Point-of-Entry Treatment (POET) System



REFER TO THE OWNER MANUAL OR USER GUIDANCE ISSUED BY YOUR PRODUCT MANUFACTURER FOR SPECIFIC INSTRUCTION

CONTACT A QUALIFIED PLUMBER OR WATER TREATMENT PROFESSIONAL TO ASSIST WHEN NEEDED

THIS IS THE PRE-FILTER: CHANGE FILTER CARTRIDGE HERE

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

WHEN TO CHANGE THE PRE-FILTER

- Monthly where required and depending on water quality. 3 or 6-month intervals for well locations that observe minimal sediment or fouling buildup on the filter
- When water pressure drops, which means the filter may be clogged with natural sediment from the well