

**OPERATIONS AND MAINTENANCE MANUAL FOR:**

SUMP PUMPS AND WASTEWATER EJECTOR PUMPS

THE PLASTIC ODDITIES BACKWATER VALVE

THE CANPLAS BACKWATER VALVE

THE CHEMTROL BALL SHUT OFF VALVE

MONTGOMERY COUNTY  
WATER SERVICES

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## **Introduction**

Your plumbing contractor may have installed a sump pump, wastewater ejector pump, a Plastic Oddities or CanPlas backwater valve, and a Chemtrol ball shut off valve in your basement floor or piping system. These devices have been installed to prevent basement flooding resulting from sewer back up through floor drains, toilets, sinks, etc. This manual prescribes the methods for using the sump/wastewater ejector pump, the valves and/or sustaining their operability.

**NOTE: During the course of maintenance on the valves, pumps, etc. it will become necessary to expose yourself to wastewater. Prior to exposure take precautions of protecting yourself by wearing protective clothing, rubber gloves, eye protection, etc. Wash well using soap and water.**

## **Sump Pumps and Appurtenances To Sump Pumps**

### **A. Sump Pumps**

The plumbing contractor who installed your sump pump should have given you a packet of information from the manufacturer on the operation and maintenance of your sump pump. This should also include information regarding the manufacturer's warranty. The property owner should always leave the pump discharge unobstructed. The following information is in addition to that provided by your plumbing contractor.

### **B. Washing Machine Stand Pipe**

If you have a washing machine stand pipe which attaches to your vertical plumbing stack and your stack does not flow through your backwater valves, the stand pipe has been extended to a height 42 inches from the basement floor level. In addition, a backwater valve and a manual shut off valve have been installed in the stand pipe. If a sewer backup were to ever reach a height of 42 inches above your basement floor in the plumbing stack, the washing machine standpipe could overflow, therefore, the valves have been installed. When closed, the manual shut off valve will prevent any backflow up the stand pipe. This manual shut off valve should be kept closed at all times except when the washing machine is in use. As additional protection, a backwater valve has been installed to reduce the potential for backups should you forget to close the shut off valve.

If your washing machine discharges into the floor drain through a hose or pipe, then you have an illegal connection; your plumbing contractor must correct this situation so that it meets the plumbing code. Such a connection may cause water and suds to back up in the floor drain and spill onto the floor around the drain when the washing machine is pumping.

### **C. Exterior Drains**

If your house has an exterior drain at the basement floor elevation (for instance in an outside stairwell leading to the basement or foundation drains), your plumbing contractor will have disconnected this drain and reconnect it into the clean water sump pump basin. Any water that does drain down the stairwell will drain into the sump pump basin and be pumped to the outside. This arrangement is necessary to prevent sewage from backing up through the exterior drain.

To prevent this water from entering through openings around the door to the basement, you may want to cover the stairwell with an awning or some other method so no rain can fall there. Also, you may want to build a small concrete ledge in front or behind your door, depending on which way it swings, to form a barrier against the water. Even if you have an exterior drain of this type, this may not apply because it may not be connected to your basement plumbing. Your plumbing contractor will investigate this for you before they begin construction. Please ask them which is the case with your drain.

### **D. Other**

If you encounter problems with your sump pump installation, you should contact the plumbing contractor who performed the work. After expiration of the manufacturer's warranty and/or any warranties extended by the plumbing contractor, the property owner will be responsible for all maintenance, repair, or replacement expenses associated with the sump pump and related accessories.

## **Wastewater Ejector Pump Systems and Appurtenances**

The purpose of a wastewater ejector pump system is to collect wastewater from lower level facilities such as toilets, showers, etc. and pump them up to a gravity sewer system. The environment under which these systems must work is much harsher than a standard sump pump installation, thus they will involve more maintenance. The plumbing contractor who installed your wastewater ejector pump system should have given you a packet of information from the manufacturer on the operation and maintenance of that system. This should also include information regarding the manufacturer's warranty. In addition, the basin lid should be removed monthly and the basin should be hosed out, (preferably with warm to hot water to remove settled materials and any greases that may form from the basin, pump, floats, etc.

## **Valves**

Your valves are probably only connected to your basement plumbing, but it is possible that all of your plumbing flows through the valves. If this is the case, you should substitute "all

plumbing” wherever “basement plumbing” is stated in this manual. Also, please be aware that backwater valve maintenance is especially important when all plumbing flows through the valves prior to exiting the building. Please ask your plumber which is the case with your installation.

The contractor has also provided you with a T-wrench for opening the access lid(s) and for operating the ball valve. Please store this tool in a location that can be easily reached in case of potential flooding.

## **Plastic Oddities And CanPlas Backwater Valves**

### **A. Plastic Oddities Backwater Valve**

Your backwater valve has been installed either with a 6 inch diameter extension, or in rare cases, inside a 15 inch diameter vault. If the extension has been installed, then a 6 inch circular screwed-in lid will be present at or near the basement floor surface. If the valve is in a vault, then a 15 inch circular lid may be lifted from your floor to reveal the valve and its bolted brass lid installed in the pipeline. The type of installation you have was dependent upon the depth of your piping beneath your basement floor.

### **B. CanPlas Backwater Valve**

Your backwater valve has been installed either with a sleeve or, in rare cases, inside a 15 inch diameter vault. If the sleeve has been installed, then a circular lid will be present at or near the basement floor surface. If the valve is in a vault, then a 15 inch circular lid may be lifted from your floor to reveal the valve and its cleanout lid installed in the pipeline. This cleanout lid can be removed by unscrewing counter clockwise. The type of installation you have was dependent upon the depth of your piping beneath your basement floor.

### **C. General Description**

Inside the valve of either type installation is a flapper which permits flow out of the building but prevents backflow from entering. (The CanPlas valve flapper can be viewed by unscrewing the top PVC cleanout lid.) It is important to remember that during a rain heavy enough to cause the sewers to back up, your backwater valve will remain closed as long as water from the outside is pushing against it. Basement plumbing should not be used when this is occurring or your own wastewater will backup through the lowest basement receptacle since it has no place to exit. The point at which you should cease using your basement plumbing is specific to each situation and is therefore difficult to judge. Determination may be made from your personal experience and knowledge of previous storms which have induced basement flooding. A sure indicator is the point at which your own wastewater begins to backup through the lowest basement receptacle following the use of some plumbing fixture. Should you observe water surfacing through a low level drain stop adding liquid to the sewer until the liquid dissipates.

It is possible that debris which have entered your sewer line through basement plumbing fixtures may lodge between the flapper and the lip of the opening where the flapper rests. If the

flapper is blocked in this open position, it cannot prevent backflow from entering the basement. **THEREFORE, IT IS VERY IMPORTANT THAT YOU FLUSH AND CLEAN THE VALVE A MINIMUM OF FOUR TIMES PER YEAR.** It may require more frequent cleaning if the basement plumbing is regularly used. During the first six months it is recommended that you clean the valve once per month to determine the frequency of cleaning necessary to keep your valve operating properly based on your specific conditions.

If you have an incorrectly sloped drain pipe, this cleaning must be much more frequent. An obstruction or a reverse slope will be apparent if wastewater and solids can be seen standing in the pipe when you remove the lid to view the flapper. These solids may clog the valve. The flapper must be flushed to prevent this clogging whenever necessary.

## **Cleaning The Backwater Valves**

### **A. Plastic Oddities Backwater Valve**

There are some basic steps to take when cleaning the flapper. If your valve is installed with an extension, you may access the flapper by inserting your T-wrench into the 6 inch diameter extension lid and twisting it off. If the valve is in a vault, you must instead lift off the 15 inch diameter vault top, loosen the bolts retaining the square brass lid with a wrench or ratchet and remove the lid. Once the extension lid or valve lid, whichever you have, is removed, you will be able to see if the flapper is clogged with debris. If obstructed, you may flush the line by pouring water into a basement plumbing receptacle. This water will run through the valves and flush the line. You may also pour water directly into the valve if necessary. (Put on rubber gloves to perform the next phase of maintenance.) Reaching down through the opening and lifting the flapper by hand to clear the valve of debris is a dirty but practical means of cleaning the flapper. If still clogged you may need to pull the flapper out from its slotted position, rinse it off with warm water and a mild dish washing detergent and remove any debris. If your valve has been installed with an extension, you will notice that a black gasket holds the flapper down. To remove the flapper you will need to pull this gasket back while pulling the flapper up and out. You may incur some difficulty in doing this, but the gasket's position helps to keep the flapper in place. It is recommended that hands be washed with soap and water after cleaning the valves.

You will need to inspect the flapper periodically for defects such as holes, cracks or deformities. The flapper must be completely solid and flat, or it will not function correctly. If defective, replacement flappers may be purchased from a plumbing supply store which sells Plastic Oddities products (they may need to specially order one). If this is a problem you may contact the manufacturer in Shelby, North Carolina, 1 (800) 438-5327. After placing the flapper back in its position, be sure to check that it lays flush against the lip and can swing open without restriction.

If your backwater valve has an extension (6 inch plastic pipe with a screw-on lid), you should then snugly tighten the extension lid back into position with the T-wrench. (DO NOT OVERTIGHTEN.) If your valve is in a vault, snugly bolt the brass lid back into place. **PLEASE NOTE THAT THE ROUND EXTENSION LID OR THE SQUARE LID, WHICHEVER HAS BEEN INSTALLED, MUST BE SCREWED DOWN WATER-TIGHT AT ALL TIMES. ANY LEAKS WILL PERMIT SEWER BACKWATER**

**TO ENTER THE BASEMENT.** To help seal the round extension lid, you may wish to apply a PVC pipe thread compound to the threads on the lid before screwing it in. This product is available from plumbing supply stores. Do not use petroleum based lubricants. The round extension lid needs only to be snug to be water-tight. Over tightening may cause future difficulty when removing the lid. If you have the square bolted valve lid, use caution in tightening the bolts. These bolts need to be tightened only slightly more than hand-tight. Excessive force may crack the body of the valve.

**For best results do not expose the flapper to abrasive cleaning materials, solvents or drain cleaners for removing drain clogs. If you must use such liquids in plumbing fixtures which flow through the valves, you should pull the flapper out of its position beforehand.**

## **B. CanPlas Backwater Valve**

There are some basic steps to take when cleaning the flapper. If your valve is installed with a sleeve, you may access the flapper by lifting off the PVC lid and unscrewing the PVC cleanout lid. This will then expose the flapper. If the valve is in a vault, you must instead lift off the 15 inch diameter vault top. Once removed the PVC cleanout lid to the valve will be exposed. Remove this by unscrewing in a counter clockwise motion, thus exposing the flapper. Check the O-ring on the cleanout lid to assure it is intact and unbroken. Once the sleeve lid or valve lid is removed, you will be able to see if the flapper is clogged with debris. If obstructed, you may flush the line by pouring water into a basement plumbing receptacle. This water will run through the valves and flush the line. You may also pour water directly into the valve if necessary. (Put on rubber gloves to perform the next phase of maintenance.) Reaching down through the opening and lifting the flapper by hand to clear the vale of debris is a dirty but practical means of cleaning the flapper. If still clogged you may need to pull the flapper out from its slotted position, rinse it off in warm water using a mild dish washing detergent and remove any debris.

You will need to inspect the flapper periodically for defects such as holes, cracks or deformities and to make sure the o-ring gasket located on the outer ring of the flapper is unbroken, well seated and in place. The flapper must be completely solid and flat, or it will not function correctly. If defective, replacement flappers may be purchased from a plumbing supply store which sells CanPlas products (they may need to specially order one). If this is a problem you may contact the manufacturer in Barrie, Ontario, Canada, 1 (705) 726-3361. After placing the flapper back in its position, be sure to check that it lays flush against the lip and can swing open without restriction hand tighten the cleanout lid back on. Do not over tighten. Over tightening may result in stripping threads, splitting the valve or causing the inability to remove the lid for future maintenance.

If your backwater valve has an extension sleeve and PVC lid you should then replace the PVC lid back into position. **PLEASE NOTE THAT THE ROUND PVC CLEANOUT LID IS SCREWED DOWN IN ORDER TO REMAIN WATER-TIGHT AT ALL TIMES. ANY LEAKS WILL PERMIT SEWER BACKWATER TO ENTER THE BASEMENT. THE ROUND CLEANOUT LID NEEDS ONLY TO BE SNUG. OVER TIGHTENING MAY RESULT IN STRIPPING THREADS, SPLITTING THE VALVE OR CAUSING THE INABILITY TO REMOVE THE LID FOR FUTURE MAINTENANCE.**

**For best results do not expose the flapper to abrasive cleaning materials solvents or drain cleaner for removing drain clogs. If you must use such liquids in plumbing fixtures which flow through the valves, you should pull the flapper out of its position beforehand.**

## **Chemtrol Ball Shut Off Valve**

A Chemtrol ball shut off valve has been installed in your basement for emergency situations. Although the backwater valve is fully capable of preventing basement flooding due to sewer backflow, you may close the ball valve in the rare situation when the backwater valve has failed. Such a failure would probably only occur when the backwater valve has not received proper maintenance. Additional information on the Chemtrol Ball Valve may be obtained by calling 1-800-343-5455.

To operate the ball valve, you must open the access hole by removing the 3 inch diameter lid. Do this by inserting the T-wrench into the lid's slot and unscrewing the lid. The T-wrench may then be inserted into the slot on top of the valve at the bottom of the access hole. This slot may not be visible from the basement floor. Only a quarter turn of the wrench is required to fully close or open the valve. Open the valve by turning the wrench counter-clockwise until the long end of the handle is aligned with the word "OPEN" written on the ring around the rim of the access hole. Close the valve by rotating the long end of the wrench handle from the "OPEN" position to the position marked "CLOSED" on the ring. The valve is only fully closed or open when the long end of the handle is aligned with the respective wording and will turn no further. You should then tighten the lid back into position with the T-wrench. The same PVC pipe thread compound mentioned in the previous section may be used to seal the lid. Do not use petroleum based lubricants. **Tighten the lid only snugly. Over tightening may cause future difficulty when removing the lid.**

When closed, the ball valve shuts off your basement plumbing completely. If you do close the valve it is of the utmost importance that you remember not to use any of your basement plumbing until you have reopened the valve. **BY CLOSING THE BALL VALVE YOU PREVENT YOUR SEWER LINE FROM DRAINING ANY WATER WHICH MAY ACCUMULATE FROM GROUNDWATER SEEPAGE, LEAKS IN WATER LINES, LEAKS IN WATER HEATERS, OR OTHER WATER SOURCES. THEREFORE, IN SUCH INSTANCES YOU MAY BE FLOODING YOURSELF BY KEEPING THE BALL VALVE CLOSED.** Be sure to keep these risks in mind before closing the ball valve in a non-emergency situation.

## **T-Wrench**

The T-wrench which has been provided should be stored near your valve installation for emergency access. Also, it should be kept where it will not be damaged. The wrench is not a widely distributed item. To purchase a replacement wrench in the future you should contact your plumbing contractor. If they are no longer available, it may be best to ask a metal fabricator to construct one to the exact dimensions of the one provided to you.

If you encounter problems with the valves following their installation, you should contact the plumbing contractor who performed the work. The plumber may direct you to the local

supplier of the valves or to the manufacturer.

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