West Central Conservancy District

Collect. Purify. Restore.

Presents

Things to know…

Wastewater Treatment Process

The process starts at a screening process that removes any debris or trash that is transported with the wastewater. It is then directed to one of four tanks called SBRs, which stands for Sequencing Batch Reactor. Inside these tanks is a bio-mass of microorganisms which will consume the organic solids and remove nutrients, such as nitrogen and phosphorous, in the wastewater. The SBR process has several different phases of operation. The following is the five distinct phases and the description of each:

Mix Fill: This phase includes wastewater being discharged into the tank with a mixer running to mix the existing bio-mass and the incoming food source.

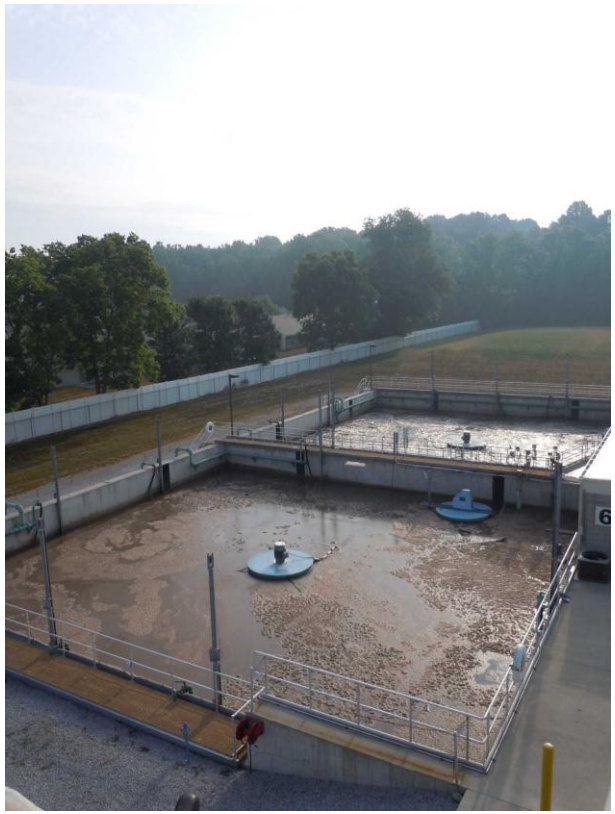
React Fill: This phase includes everything from the previous phase in addition to introducing air into the tank. This aeration assists in mixing and promotes bio-mass activity.

React: This phase includes mixing and aeration only in order to allow the microorganisms to consume the contents of the raw wastewater.

Settle: This phase shuts down all mechanical activity to the tank. This allows the bio-mass to settle to the bottom and continue to feed on the wastewater. As this bio-mass settles to the bottom of the tank, it pulls any particulates down with it and leaves clear treated water on top.

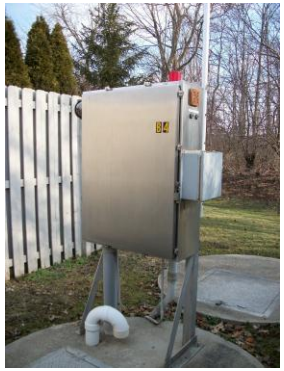
Decant: This phase continues to leave everything off just like the previous phase. The only difference is that a valve opens and by gravity allows the treated water from the SBR to flow into the ultraviolet light disinfection system and then on to the creek where it is returned to the environment.

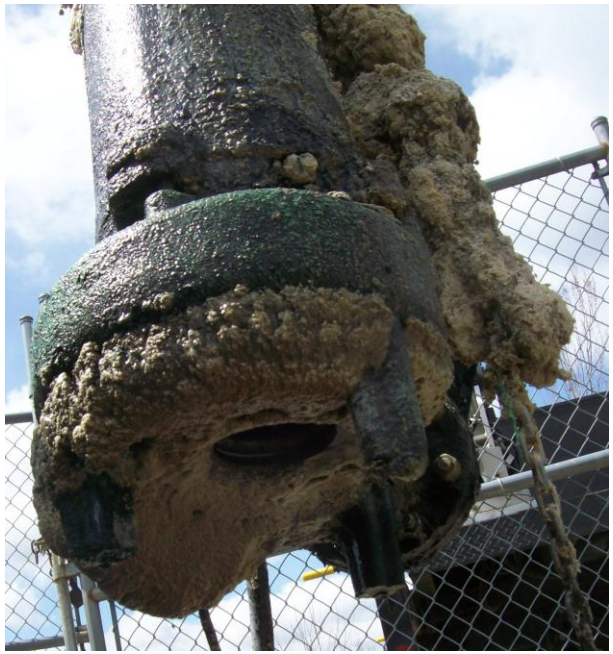
The entire process happens with microorganisms that absorb and consume the waste in the water and cleans it naturally for us. Basically, it speeds up the natural process of the environment and allows us to treat more waste in a shorter period of time.



Collection System

The collection system transfers wastewater from homes and businesses to the treatment facility. The District has around 140 miles of underground pipes and many lift stations that pump the wastewater. The wastewater comes from sinks, washers, toilets, showers, and floor drains. Things to remember is that you should never dump any oil, grease, chemicals of any kind, or medicines down these drains. These items pose a potential hazard to people and the environment.





Grease

Grease can be a major problem for our collection system and our treatment facility. Grease causes build up on pumps, piping, valves and other equipment. It can also be very expensive to treat and remove from the system. The picture to the right is a grease trap that is not being cleaned out properly. We have a grease trap inspection program that all restaurants must follow and that allows us to monitor them regularly. Even though we monitor the restaurants and make them dispose of the grease properly, many issues still arise from the grease that enters into the system from homes. One way you can make a difference is to make sure you dispose of your grease from cooking in the appropriate way. Never dump it down the drain. Pour your used grease into a coffee can or other container and once it is full throw it out with your normal trash. This not only includes frying oils, but the run off grease from cooking meats.

Infiltration

Infiltration is defined as any water, whether it is rain or groundwater, which finds its way into the wastewater stream. The result is many problems for the wastewater treatment facility and the equipment that gets it there. The excess water, which does not require treatment, can cause the system to become overloaded. During heavy rain events, it is very important to have a system that is not compromised by infiltration. We want the water to end up in the creek and not our wastewater system where it takes up valuable capacity and costs money to treat. Not all infiltration is able to be stopped, such as a lift station (pump station) becoming submerged under flooding waters. However, many different infiltration issues can be resolved. District employees work hard to ensure that all pipes and other collection structures are in good condition. Improvements and repairs are constantly being made to the system to ensure that it is operating at peak performance.

With just a few minor steps you can help. Please replace any cleanout caps that have been ran over by a lawn mower or broken by any other means. If you see any manhole lids off or missing in the District please inform us immediately at 317-491-3593. We will replace the lid immediately before it causes any infiltration problems in our system. In some cases downspouts and sump pumps are connected to the sanitary sewer system. These connections are considered illegal by state law. If you see downspouts going underground with no visible discharge or a sump pump that has no visible discharge point, these may be an illegal connection to the system. The District works diligently to keep a closed system and with your help we can continue these efforts to keep rates down and everyone safe.