

# Authority Times

News and Information for Customers  
of the Borough of Conshohocken Authority

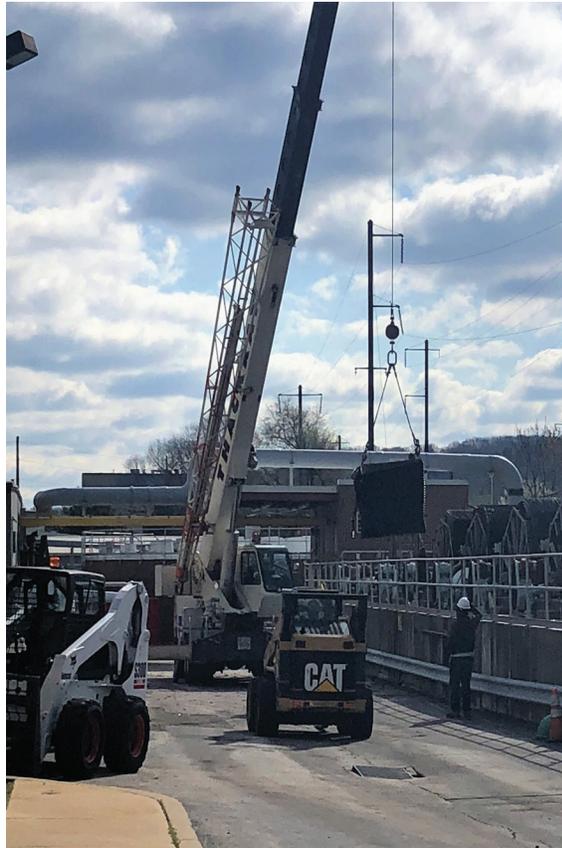
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## The ABCs of RBC

A rotating biological contactor (or RBC) is a biological treatment process used in the treatment of wastewater following primary treatment. The RBC system is capable of handling fluctuating hydraulic and organic loads, and therefore, does not require recycling of sludge or recirculation. This simplifies the operation and eliminates the need for operating flexibility and instrumentation.

The RBC unit consists of several pie-shaped plastic discs called media. The media is mounted on a slowly rotating central shaft and installed in a reactor tank. The primary treated wastewater level in the reactor is maintained to allow 40% submergence of the media diameter. As the media slowly rotates through the wastewater, a biological film establishes itself onto the entire media. The biological film uses the contaminants present in the wastewater as its food source. Dissolved Oxygen (D.O.) is absorbed by wastewater as the RBC rotates. The biological film uses D.O. in the wastewater to break down the contaminants to lesser or non-contaminating end products.

As the biological film (biomass) develops, a steady state condition is reached. The rotation of the media alternately contacts the biofilm with organic material in the wastewater and then with the air. Shearing forces exerted on the biofilm as it passes through the wastewater cause excess biological growth to be sloughed



off the media into the stage liquor where the turbulence created by the media rotation maintains the sloughed biomass in suspension.

(Continued on Back Page)

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### MEETINGS

July 24  
August 28  
September 25  
October 23  
November 27

Meetings are held in  
the Authority office:  
601 East Elm St.  
Conshohocken

Meeting time 6:30 pm

## Interceptor Rehab Project Planned for '18

The Borough of Conshohocken Authority (BCA) has selected Mr. Rehab, LLC for its interceptor rehabilitation project. Work is expected to begin in June and conclude by September. The project will include:

- Pre-cleaning and televising of all sewer pipe that is scheduled to be rehabilitated
- The lining of a 20" pipe, approxi-

mately 1,842 linear feet and 5 lateral connections that will be reinstated

- The lining of a 22" pipe, approximately 1,650 linear feet and 10 later connections reinstated

- Dewater operations where sewage flows are directed around where rehabilitation will be taking place in the pipes (by-pass pumping)

- Repair of corroded sections

of the pipeline using a trenchless, below-ground construction method called "cured in place pipe" lining

We have selected to rehabilitate this line because it is less expensive and has fewer surface construction impacts when compared to building new replacement pipelines.

(Continued on Back Page)

# Authority Plans Interceptor Rehab Project



**(Continued From Front Page)**

The Borough of Conshohocken Authority will be using a “cured in place pipe” lining, or CIPP. This involves inserting a resin-coated liner into the pipes at manholes. The liner is rolled

out and inflated to take the shape of the pipe. The liner is then cured with hot water to harden it in place.

The pipes need to be dry during lining, so a temporary bypass pipe will be used during construction to carry wastewater around this section of the pipe.

## Project timeline

The work on Colwell Lane to West Elm Street and through the parking lot of the Grande is expected to begin in late June and take two to three months to complete.

## Being a good neighbor

The Authority is committed to being a good neighbor and will work directly with the community throughout the project to minimize construction impacts whenever possible. We will send out additional project information and schedules when available. Residents can expect:

- Advance notice of construction activities—by mail, email, phone, door hangers
- Project construction updates
- Project construction phone and email so you can easily contact Authority staff about the project

# What Are RBCs, and Why Replace Them?

**(Continued From Front Page)**

New biomass begins to grow almost immediately where excess growth has fallen off, so the media surface is covered with a mixture of growths ranging from those just started growing to growth just breaking or dropping off.

## RBC prevents odors, fish kills and excessive algae

Nitrogen serves as a nutrient for the natural biota in the receiving water, sometimes stimulating excessive growth of species. This overgrowth frequently causes undesirable conditions such as dissolved oxygen depletion, fish kills, odors, and unsightly concentrations of algae. To prevent excessive growth, limiting the nutrient concentrations may be desirable.

The process of converting ammonia to less harmful nitrate is called nitrification.

The RBC system provides nitrification with the oxidation of ammonia nitrogen to nitrites and nitrates. This process is accomplished by the establishment of autotrophic organisms on the RBC media after most of the carbon material has been oxidized.

## Why repairs are needed

During the 30 years the RBC has been in service it has treated millions of gallons of wastewater. Over time, equipment starts to fail. The media has started to break down, which reduces the surface area for biological growth, and,



in turn, reduces plant effluent efficiency. The mechanical parts are well over their life expectancy. Bearings, gearboxes and motors are what make the RBC spin, introducing the media to air and then wastewater.

Hopefully after reading this article, you can understand why it's so important to replace them. We are in the business of protecting the state's waterways and are committed to the health and safety of our downstream users.