



Environmental
Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

June 22, 2011

RE: MAHONING COUNTY
BERLIN TWP.
MILL CREEK REC. AREA
NPDES PERMIT NO 3PN00000

Ms. Rene´ Berberich.
USACOE, Mill Creek Rec. Area
7400 Bedell Road
Berlin Center, OH 44401

Ms. Berberich:

On June 2, 2011, this writer conducted an inspection of the wastewater treatment system for the Army Corps of Engineers Campground on Berlin Reservoir located at 7400 Bedell Road in Mahoning County. The intent of the inspection was to evaluate the condition of the system. In addition, the compliance record was also reviewed for any violations of the NPDES Permit.

Observations:

Following are observations of the system made during the inspection.

1. The aeration tank appeared light in mixed liquor content. Mr. Fabrizio indicated that the mixed liquor concentration was approximately 1400 mg/l. It was indicated that the system had received significant inflow to the system during previous precipitation events which could have washed solids out of the tank. A subsequent e-mail from Mr. Fabrizio stated that the system had been seeded with sludge from another facility and that conditions were improving.
2. The content of the clarifier was cloudy. It was indicated that the sludge at the bottom of the clarifier was heavy and thick. The material could have been old sludge; but, it could also be associated with leaves and other debris that entered the clarifiers last fall. A recent e-mail stated that conditions were improving in the clarifier after the system had been seeded with sludge. It is understood that sludge settling characteristics and effluent clarity had recently improved.
3. The weir trough and plate of the clarifier appeared to be in satisfactory condition. No excessive corrosion was apparent; however, if further inspection of the trough and plate indicates excessive corrosion, the components must be replaced. Adjustable weir plates are easily manufactured at local milling factories.
4. The rapid sand filters were not operational at the time of the inspection and have not been operational for more than a year. It is unsatisfactory that the tertiary treatment system is not operable. It is required that the treatment plant include tertiary

treatment. Either the existing rapid sand filters must be made operational, or the existing filters must be abandoned and replaced with a new tertiary system. It is recommended that the existing filters be abandoned and replaced with slow surface sand filters which demand less energy and time to operate than the rapid sand filters.

5. It was stated by Mr. Fabrizio that the disinfection tank had significant sludge deposits when the plant was activated earlier. The sludge deposits could have been the result of heavy inflow through the system during the off-season.
6. The possibility that the system is heavily influenced by inflow during precipitation events causes concern. Inflow to activated sludge treatment systems, such as the one at the park campground, cause operational problems by washing solids out of the system. The solids contain microbes necessary to treat the wastewater. Losing solids from the system each time there is a rain event compromises operations.

The system must be modified to include an equalization tank ahead of the aeration tank. The equalization tank is not only important to dampen inflow to the system, it is also important for dampening the organic load to the system associated with weekend camping activities.

7. The sludge holding tanks should have the ability to return supernatant to the aeration tank. This permits sludge to be thickened prior to being hauled offsite. Having the ability to thicken sludge reduces hauling costs associated with sludge disposal.

During the inspection it was unclear if the system had the ability to return supernatant to the aeration tank. The sludge holding system should be evaluated to determine if the system has the facilities to decant the sludge holding tanks. If not, the sludge facilities must be modified to install a decant system in the sludge holding tank.

8. It was the understanding of this writer that the flow meter is not operational. The NPDES Permit for the facility requires that flow through the system be continuously monitored. The existing flow meter must be repaired or it must be replaced with a new flow meter.
9. It was understood that the blowers for the system may be oversized. An economic analysis of the blower system should be conducted to determine if replacing the existing blowers with smaller ones is more economical than continuing to operate the existing blowers. The power savings of the new, smaller blowers may offset their cost over time.

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Compliance Review:

The compliance record for the campground wastewater treatment facility was reviewed as part of this inspection. The period of review was January 2010 through April 2011. Following are violations of the NPDES Permit identified during the review period.

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
May 2010	Total Suspended Solids	30-Day Conc.	12	13.	5/1/2010
June 2010	Fecal Coliform	30-Day Conc.	1000	1500.	6/1/2010
July 2010	Total Suspended Solids	30-Day Load	1.4	1.64931	7/1/2010
July 2010	CBOD 5 day	7-Day Conc.	15	15.8	7/1/2010
July 2010	Total Suspended Solids	7-Day Load	2.0	3.00908	7/22/2010

In addition, the following frequency violations were recorded during the review period.

Reporting Period	Parameter	Sample Frequency	Expected	Reported	Violation Date
May 2010	Phosphorus, Total (P)	1/Quarter	1	0	05/01/2010
July 2010	Phosphorus, Total (P)	1/Quarter	1	0	07/01/2010
September 2010	Phosphorus, Total (P)	1/Quarter	1	0	09/01/2010

Be advised that analytical results must be reported in accordance with the frequency established in the permit. Failure to do so is considered a violation of the permit and Ohio Revised Code (R.C.) 6111.07.

You may contact this writer at (330) 963-1251 or at john.kwolek@epa.state.oh.us to discuss any questions you may have regarding this inspection report.

Respectfully,



John Kwolek
District Engineer
Division of Surface Water

JK/mt

cc: Randy Fabrizio, Operator of Record