



State of Ohio Environmental Protection Agency

Northeast District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

November 16, 2007

RE: LORAIN COUNTY
VILLAGE OF WELLINGTON WWTP
COMPLIANCE EVALUATION INSPECTION
OHIO EPA NO. 3PC00014
(OH0028037)

Village Administrator and Council
Attn: Mr. Steven Pyles, Village Administrator
Village of Wellington
115 Willard Memorial Square
Wellington, OH 44090

Dear Village Administrator and Council:

On October 30, 2007, an inspection was conducted at the Village of Wellington wastewater treatment plant (WWTP). Present during the inspection were Messrs. Mark Rosemark and Greg Frank, representing the Village of Wellington; Mr. John Sabo of the Lorain County Health Department; and this writer, of Ohio EPA. The purpose of the inspection was to evaluate the facility's compliance with National Pollutant Discharge Elimination System (NPDES) permit effluent limits, as well as the terms and conditions of its NPDES permit. Evaluated during the inspection were the treatment plant processes, effluent discharge quality, and general compliance with the intent of the permit.

At the time of the inspection, the general operation of the plant could be rated as marginal / satisfactory. All treatment components were in operation, and observation of the effluent being discharged revealed no visual signs of debris, oil and grease, or high levels of solids. A slight, white foam was present for a distance of approximately 20 yards downstream of the WWTP outfall.

Inspection of the WWTP components resulted in the following observations:

- 1) Contents of the two primary settling tanks were a typical turbid gray in color, with some slight floating grease.
- 2) One of three activated sludge (aeration) tanks was in use for treatment. The remaining two tanks were only being aerated in an effort to further reduce the amount of air going to the single tank and possibly causing floc shear.
- 3) Contents of the two final settling tanks were grayish in color, and the effluent weirs and troughs were clean and free of algae or solids.

A review was conducted of the Monthly Operating Report (MOR) data submitted by the Village for the period of October 1, 2006, through October 1, 2007. The following is a summary of violations of NPDES permit effluent limits during that period:

**VILLAGE OF WELLINGTON WWTP
 NPDES PERMIT (3PC00014)
 FINAL EFFLUENT NUMERIC VIOLATIONS
 (OCT. 1, 2006 –OCT. 1, 2007)**

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
October 2006	Total Suspended Solids	30D Conc	15	17.5	10/1/2006
October 2006	Total Suspended Solids	7D Conc	20	23.	10/15/2006
October 2006	Total Suspended Solids	7D Qty	57	70.1682	10/15/2006
December 2006	Total Suspended Solids	30D Conc	15	17.625	12/1/2006
December 2006	Total Suspended Solids	7D Conc	20	26.5	12/1/2006
December 2006	Total Suspended Solids	30D Qty	43	45.5160	12/1/2006
December 2006	Total Suspended Solids	7D Qty	57	71.3964	12/1/2006
February 2007	CBOD 5 day	30D Conc	10	10.55	2/1/2007
February 2007	Total Suspended Solids	30D Conc	15	15.25	2/1/2007
April 2007	Total Suspended Solids	30D Conc	15	19.	4/1/2007
April 2007	Total Suspended Solids	7D Conc	20	25.5	4/1/2007
April 2007	Total Suspended Solids	7D Conc	20	25.	4/22/2007
May 2007	Total Suspended Solids	30D Conc	15	17.125	5/1/2007
May 2007	Total Suspended Solids	7D Conc	20	21.	5/15/2007
June 2007	Total Suspended Solids	30D Conc	15	15.125	6/1/2007
July 2007	Nitrogen, Ammonia (NH3-N)	7D Conc	2.0	2.055	7/1/2007

The MOR data review also revealed the absence of data having been submitted for the heavy metals nickel and zinc for the past 5 years.

The following items were discussed during our October 30th inspection:

- 1) Mr. Rosemark was checking into the absence of MOR reporting for the nickel and zinc analyses. He did indicate he knew the analyses were conducted along with the other permit required heavy metals. (As a note, a November 6, 2007 correspondence was submitted to Ohio EPA indicating an error in the SWIMware reporting template was found and corrected for the December 2007 reporting period). Copies of the missing nickel and zinc analyses were included with the November 6th correspondence.
- 2) Current WWTP major improvements were completed in December 2005. However, since the improvements were completed, problems are still being experienced with recurring total suspended solids violations.
- 3) It is felt by Messrs. Rosemark and Frank that there may be two sources of problems which could be causing the suspended solids violations:
 - i) The new blowers for the activation process seem to be providing excessive air / turbulence to the activation process. This may be resulting in unwanted shear of the suspended solids in the tankage, thus making the undersized particles difficult to settle out.

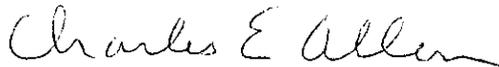
- ii) The removal efficiencies of the biological (trickling) filters may be too good, removing too much BOD and ammonia before sending / returning flow back to the contact tank. This may, in effect, be reducing the amount of 'food' being sent back to the organisms in the contact tank.
- 4) In an effort to correct the excessive air problem, Messrs. Rosemark and Frank have been working with consulting engineers and manufacturers representatives for the blowers, on ways to reduce the amount of air output from the blowers. Apparently, it is difficult to reduce the amount of air to the lower levels which will not shear the settleable solids.
- 5) Relocation of the chemical (alum) feed used to form settleable floc, from the contact stabilization tank to the top of the final clarifier, has also been tried. The relocation of the alum feed line was done in an effort to eliminate the excessive solids shear in the aeration portion of the process, and hopefully allow adequate floc development in the final settling tanks.
- 6) It was discussed that the Village may have to install some type of tertiary filtration, possibly membrane filters, which will enable the WWTP to consistently meet the final effluent limits for total suspended solids.
- 7) It is understood that after winter, the Village will be making an assessment of data collected, and a determination will be made on whether tertiary (membrane) filters will need to be installed to correct the total suspended solids problems being experienced.
- 8) There are five persons employed, in rotation, at the WWTP. The plant is manned by 3 employees from 7:00 a.m. to 3:30 p.m., 7 days per week. The WWTP is monitored 24/7 by the SCADA system, and if an emergency situation were to arise during the unmanned hours, the SCADA system automatically notifies the on-call plant personnel via telephone.
- 9) Sample analyses are conducted both in-house (CBOD, SS, Ammonia, pH, D.O., Fecal Coliform), and by a contracted outside lab (Oil & Grease, Phosphorus, Nitrate-Nitrite, Heavy Metals). Outside labs used are Jones & Henry, and the City of Lorain Black River Plant.
- 10) Sludge generated at the WWTP is an aerobically digested Class B sludge. Sludge (approximately 2% solids) is withdrawn from the digesters and pumped to one of two on-site storage lagoons. Sludge is stored in an active lagoon for two years, then allowed to dry in a second lagoon for two years. Dried sludge is removed from the second lagoon and land applied in Medina County by Agrisludge, Inc.
- 11) In the renewed NPDES permit, Lorain County is being added by this office as a backup county for land application of sludge.

- 12) Screenings and grit from the WWTP are hauled to the Allied Waste landfill in Lorain County (approximately 2c.y. / mo.)
- 13) The automatic bar screen was rebuilt in approximately June 2007, utilizing nylon parts.
- 14) Both aerobic digesters were cleaned this past summer, and the air manifold replaced.
- 15) Renewal of the Wellington WWTP NPDES permit was to have happened last year, but it was never drafted. The NPDES permit renewal is currently being drafted, and should be issued within the next few months.

The Village of Wellington should continue with all efforts that will enable the WWTP to consistently meet its NPDES permit limits. Particular attention should be paid to determination of the cause of the suspended solids effluent violations, and implementation of any necessary corrective actions.

If there are any questions or comments regarding the contents of the report or this letter, please contact this office.

Respectfully,



Charles E. Allen
Environmental Engineer
Division of Surface Water

CEA/mt