



Environmental  
Protection Agency

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

February 2, 2011

RE: Lorain County  
City of Amherst WWTP  
Compliance Enforcement Inspection  
(NPDES # 3PD00001)

Mayor David Taylor and Council  
City of Amherst  
206 South Main St.  
Amherst, OH 44001

Dear Mayor Taylor and Council:

On January 4, 2011, a Compliance Evaluation Inspection (CEI) was conducted at the City of Amherst wastewater treatment plant (WWTP). Present during the inspection were Mr. Alan Brailer, representing the City of Amherst; Mr. John Sabo, of the Lorain County Health Department; and this writer, of the Ohio EPA.

The purpose of the inspection was to review the operation and maintenance of the treatment plant processes; evaluate the facility's compliance with the terms and conditions of its current NPDES permit; and to discuss the forthcoming NPDES Permit renewal.

The last CEI conducted at the Amherst WWTP was on November 19, 2007.

At the time of the January 4<sup>th</sup> inspection, the following observations were made:

- Contents of the Orbal system were medium brown, and were being well aerated. Very little foam was observed on the surface of the tank contents.
- Both of the two final clarifiers were in use, and their contents were medium gray. The sludge scrapers were operating, and effluent troughs were clean and free of solids.
- All three Aqua Disk tertiary filters were operating satisfactorily.
- The Ultra Violet disinfection system was not in use, as disinfection is not required during the winter months (November 1<sup>st</sup> through April 30<sup>th</sup>).
- One aerobic sludge digester was in use, and the sludge thickener was empty.
- Final effluent from the WWTP was visually clear, and there was a slight presence of foam within the mixing zone of the effluent and receiving stream. No foam was observed downstream of the mixing zone.

According to analytical data contained in the electronic Discharge Monitoring Reports (eDMRs) submitted to the Ohio EPA for the period from November 1, 2007 through January 1, 2011, the following effluent numeric violations were reported:

**City of Amherst WWTP**  
*NPDES Permit No. 3PD00001*  
*Effluent Limit Numeric Violations*  
*(November 1, 2007 through January 1, 2011)*

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
November 2007	Total Suspended Solids	7D Conc	18	18.0666	11/8/2007
November 2007	Phosphorus, Total (P)	7D Qty	12.7	13.4443	11/22/2007
December 2007	Total Suspended Solids	7D Qty	153.2	226.748	12/8/2007
February 2008	Total Suspended Solids	30D Conc	12	30.45	2/1/2008
February 2008	Total Suspended Solids	7D Conc	18	94.8	2/1/2008
February 2008	Total Suspended Solids	30D Qty	102.2	755.633	2/1/2008
February 2008	Total Suspended Solids	7D Qty	153.2	2568.68	2/1/2008
February 2008	CBOD 5 day	30D Qty	85.1	121.838	2/1/2008
February 2008	CBOD 5 day	7D Qty	127.6	213.841	2/1/2008
February 2008	Dissolved Oxygen	1D Conc	6.0	5.8	2/5/2008
February 2008	Total Suspended Solids	7D Qty	153.2	346.283	2/15/2008
February 2008	CBOD 5 day	7D Qty	127.6	208.881	2/15/2008
February 2008	Phosphorus, Total (P)	7D Qty	12.7	15.1816	2/15/2008
March 2008	Total Suspended Solids	30D Qty	102.2	129.194	3/1/2008
March 2008	Total Suspended Solids	7D Qty	153.2	346.303	3/15/2008
June 2008	Dissolved Oxygen	1D Conc	6.0	3.6	6/26/2008
July 2008	Dissolved Oxygen	1D Conc	6.0	4.9	7/3/2008
November 2008	Dissolved Oxygen	1D Conc	6.0	5.5	11/15/2008
February 2009	Total Suspended Solids	30D Qty	102.2	275.034	2/1/2009
February 2009	CBOD 5 day	30D Qty	85.1	130.547	2/1/2009
February 2009	Dissolved Oxygen	1D Conc	6.0	2.7	2/7/2009
February 2009	Total Suspended Solids	7D Conc	18	32.6666	2/8/2009
February 2009	Total Suspended Solids	7D Qty	153.2	1031.89	2/8/2009
February 2009	CBOD 5 day	7D Conc	15	15.6666	2/8/2009
February 2009	CBOD 5 day	7D Qty	127.6	489.324	2/8/2009
March 2009	Total Suspended Solids	7D Qty	153.2	240.120	3/8/2009
March 2009	CBOD 5 day	7D Qty	127.6	225.008	3/8/2009
March 2009	Dissolved Oxygen	1D Conc	6.0	3.5	3/8/2009
May 2010	Dissolved Oxygen	1D Conc	6.0	3.2	5/14/2010
October 2010	Dissolved Oxygen	1D Conc	6.0	3.7	10/3/2010
November 2010	Dissolved Oxygen	1D Conc	6.0	4.6	11/26/2010

Monthly data for the same time period also revealed the following reporting code violations:

**City of Amherst WWTP**  
*NPDES Permit No. 3PD00001*  
*Reporting Code Violations*  
*(November 1, 2007 through January 1, 2011)*

Reporting Period	Station	Reporting Code	Parameter	Reported Value	Violation Date
April 2008	601	00530	Total Suspended Solids	AD	4/23/2008
April 2008	601	80082	CBOD 5 day	AD	4/23/2008
July 2008	001	50050	Flow Rate	AD	7/8/2008
July 2008	001	50050	Flow Rate	AD	7/9/2008
September 2008	001	00010	Water Temperature	AD	9/23/2008
September 2008	001	00010	Water Temperature	AD	9/24/2008
December 2008	001	00530	Total Suspended Solids	AD	12/30/2008
December 2008	001	00610	Nitrogen, Ammonia (NH3-N)	AD	12/30/2008
December 2008	001	00610	Nitrogen, Ammonia (NH3-N)	AD	12/30/2008
December 2008	001	80082	CBOD 5 day	AD	12/30/2008
May 2009	601	00530	Total Suspended Solids	AD	5/4/2009
May 2009	601	80082	CBOD 5 day	AD	5/4/2009
January 2010	001	00530	Total Suspended Solids	AD	1/26/2010
January 2010	001	00610	Nitrogen, Ammonia (NH3-N)	AD	1/26/2010
January 2010	001	00610	Nitrogen, Ammonia (NH3-N)	AD	1/26/2010
January 2010	001	00610	Nitrogen, Ammonia (NH3-N)	AD	1/26/2010
January 2010	001	00610	Nitrogen, Ammonia (NH3-N)	AD	1/26/2010
January 2010	001	80082	CBOD 5 day	AD	1/26/2010

During the January 4<sup>th</sup> inspection the following items were discussed:

- 1) Since the last inspection, ORP control equipment has been added to Ring 1 of the Orbal Unit. Dissolved Oxygen automated control equipment was also added to the Orbal Rings 2 and 3.
- 2) Also since the last inspection, the siphon chamber on the hillside across the river from the WWTP had improvements constructed, which eliminated the 24" sanitary sewage bypass located at the siphon chamber inlet. Elimination of the SSO was a condition of the current NPDES Permit.
- 3) Other construction which was part of the siphon overflow elimination project is still underway. The remainder of the project, which is scheduled for completion in May of 2011, includes cured-in-place pipe lining; manhole rehabilitation; and manhole restoration.

- 4) The siphon project also included the construction of a new vault at the headworks of the WWTP. The vault was observed during the inspection, and it appears to be considered a confined space. However, there was no sign on the opening leading to the vault, stating 'Confined Space: Do Not Enter' (Permit Required).
- 5) In Spring 2010 sanitary sewers were relined in the Cooper Foster service area. ARRA funding from the Federal government was utilized for the project.
- 6) The Compliance Schedule contained in the current NPDES Permit was discussed. The Schedule contained several dates for work which was to have been completed, and for which reports were to have been submitted. The status of each item was discussed, and the current status or appropriate completion date was determined.

Items which were contained in the compliance schedule pertained to:

- a) Study of the siphon chamber under Beaver Creek; submittal of a report on the findings; construction to eliminate the sanitary overflow from the siphon.
  - b) Study of the Cooper Foster Pump Station; submittal of a report on the findings; construction to eliminate the sanitary overflow from the pump station.
- 7) The current NPDES Permit also contains the required submittal of the following items, for which the current status was discussed, or the completion date was determined:
    - a) Annual status reports for any Sanitary Sewer Overflows (SSOs) in the sewer system.
    - b) Annual sludge generation / use / disposal reports.
    - c) Annual Pollutant Minimization Plan (PMP) reports for the reduction of mercury levels in the WWTP effluent.
  - 8) The continuation of the mercury variance issued to the City of Amherst was discussed for purposes of inclusion / removal in the renewal NPDES permit. Mr. Brailer indicated that the City may no longer need the variance, as they have met the mercury limits for all but a couple times for

the past 2 years. Mr. Brailer was told that mercury data for the past 2 years will be reviewed by the Agency, and a decision on the need for the variance will be made by the Agency prior to drafting of the NPDES Permit renewal.

- 9) The Amherst WWTP generates a Class B sludge containing approximately 6 % solids content. The sludge is land applied by Midwest Compost in northwest Ohio counties. Midwest Compost has the contract for 2010 and 2011.
- 10) The sludge filter press is operated approximately 1 ½ days per week, generating approximately 25,000 gal./week of 6% solids sludge.
- 11) Screenings and grit removed at the WWTP (approx. 2 c.y. / wk.) are hauled and disposed of at the Republic Landfill in Lorain County.
- 12) Average daily flow to the WWTP is approximately 2.0 MGD. During high flow periods, at approximately 7.5 MGD, the excess flow is diverted around the Orbal process, directly to the final clarifiers. This diversion is done to protect the integrity of the Orbal process, and allow a quicker return to normal treatment when high influent flows subside.

Mr. Brailer was informed that the forthcoming renewed NPDES Permit will most likely contain a new reporting station (STA 602), which will have to be monitored for flow that is bypassed around the Orbal Ditch during high flows, before combining back into the final clarifier splitter/feed chamber.

- 13) The renewed NPDES Permit will also contain new language, requiring the installation of a sign at the outfall. The sign will contain pertinent information pertaining to the outfall, and whom to contact for questions regarding the outfall.
- 14) Conventional pollutants are analyzed at the WWTP lab, while heavy metals samples are sent to Belmont labs for analysis. Bioassays which were required to be conducted during the first 12 months of the current NPDES Permit were sent to Enviro Science for analysis. Dates and results of the bioassay reports were verified and discussed.
- 15) DMRQA Study No. 30 unknown sample analyses were run by the WWTP lab, and all results were acceptable.

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- 16) There are 6 full time employees, working 8 hour shifts, 7 days per week. An auto dialer will alert personnel of any problems at the WWTP when the plant is unmanned.

Upon receipt of the renewed NPDES Permit draft, the City should review the draft and comment on any items for which the City may have concerns. Any comments need to be forwarded to the Agency within 30 days of the public notice of the draft permit.

The City of Amherst should continue with the implementation of positive steps which enable the WWTP to consistently meet its NPDES Permit limits.

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