

**Environmental
Protection Agency**

**Governor
Lt. Governor
Director**

July 20, 2011

RE: CUYAHOGA COUNTY
CITY OF BEDFORD WWTP
COMPLIANCE EVALUATION INSPECTION
NPDES PERMIT NO. OH0024040
OHIO EPA PERMIT NO. 3PD00005

Henry Angelo, City Manager
Bedford City Hall
165 Center Road
Bedford, OH 44146

Dear Mr. Angelo:

On June 8, 2011, an inspection of the wastewater treatment plant (WWTP) serving the City of Bedford was conducted by the undersigned. The facility was represented by Mr. Jon Turk, Assistant Superintendent. During the course of the inspection, evaluations were conducted of the treatment processes, effluent discharge quality, laboratory, and biosolids management.

NPDES Permit Status

The NPDES permit for this facility was issued effective on April 1, 2009 and will expire on July 31, 2013. Per the Tinkers Creek TMDL report, the NPDES permit contains a water quality trading requirement in Part 1, C for Phosphorus.

Facility Description

The current NPDES permit authorizes an average daily discharge of 3.2 MGD from the facility to Wood Creek at river mile 1.27. The current treatment system consists of bar screens and comminutors, grit removal, primary clarification, trickling filters, secondary clarification, rapid sand filtration and chlorination/dechlorination. Phosphorus removal is achieved through the addition of ferric chloride. The off-line flow equalization basin is used to divert and store excess wastewater flows during wet weather events.

Sludges from the primary and secondary clarifiers are combined and diverted to a gravity sludge thickener. Thickened sludge is transferred to a primary and secondary digester operated in series. The digested sludge is dewatered in a belt filter press and hauled off-site, i.e. PPG Lime Lakes, for proper disposal.

Inspection Findings/Compliance Status

At the time of the inspection, the following observations and comments were noted:

- The general operation and maintenance of the treatment plant appeared to be satisfactory. A visual observation of the plant effluent revealed no signs of floating debris, oil & grease, or foam in the discharge.
- We understand that the following facility improvements are planned for 2011:
 - Rehabilitation of the EQ basin and associated equipment. This will necessitate that the basin be taken out of service for a period of approximately 10 weeks.
 - Installation of a UV disinfection system (as authorized by PTI No. 806304) to replace the existing chlorination system.
- Two internal treatment system bypass locations were noted and discussed during the inspection. The two bypasses involve the diversion around treatment from the flow equalization basin (Station 602) and the diversion around the rapid sand filters at the lift station (Station 603). Both bypasses tie in ahead of the permitted final effluent discharge at Outfall 001.

Please be advised that the diverting or bypassing of wastewater from any portion of the treatment facility is prohibited and must be reported as an unauthorized discharge in accordance with Part III, items 11 and 12, of your NPDES permit. This includes notification by e-mail or telephone and confirmation in writing. Sampling must occur during bypass events. Future NPDES renewals will require the City to conduct a comprehensive analysis of all feasible alternatives necessary to eliminate the headworks bypass at the treatment plant and any overflows in the collection system.

Laboratory

The review of the plant laboratory noted that the following permit parameters are currently being analyzed in-house: DO, pH, Temperature, cBOD, Suspended Solids, Fecal Coliform, Ammonia, and Phosphorus. The balance of the permit parameters are analyzed by North Coast Labs (Metals,) and Enviroscience (Bioassays). The following highlights were noted during the review:

- The laboratory was clean and well kept.
- The facility laboratory reported all of its parameters on the 2010 DMR-QA Study as "Acceptable" with the exception of the following: pH, Nitrate, Oil & Grease.

- The analysis of duplicate samples was not being routinely performed. General laboratory procedures require that blanks, duplicate, and spiked samples should be run with each batch of samples. Quality control charts should be developed from the results of standards, duplicates, and spikes.
- In the Ammonia-N test, it appears that the lab was having trouble achieving proper calibration slopes, i.e. -59 mV recommended in Standard Methods. If the slope(s) is (are) unacceptable, the calibration must be re-prepared and analysis cannot be started until an acceptable slope is obtained. It is suggested that the calibration be limited to a range of 0.10 mg/L to 10.0 mg/L. Calibration standards must be prepared using class A volumetric flasks as well as class A glass pipettes of exact volume.

The facility must develop a comparability study between distilled and undistilled Ammonia-N samples. Manual distillation is not required if the data shows a difference of less than 10 %. The study may be coordinated with an external laboratory.

- A standard curve must be developed as part of the Phosphorus analyses.
- The analytical balance appeared to be in good operating condition. In addition to the annual service calibration, the balance should be checked each day it is in use with ASTM class 1 or 2 weights at a low and high mass to ensure proper operation. The values obtained should be recorded in the balance logbook. If the weights do not agree within 1 mg, the balance will need attention. The technician that services the balance should be able to certify the weights and provide the necessary paperwork.

Discharge Monitoring Reports

Discharge monitoring reports (DMR), received by Ohio EPA for the period January 2010 through May 2011, were reviewed. A summary of the reported data is listed in Attachment A. Additionally, the data was reviewed for compliance with the final effluent limitations and monitoring requirements of the NPDES. Violations of the NPDES permit at Outfall 001 are listed in Attachment B. Bypasses at Station 602 are listed in Attachment C.

Part III, item 12, of your NPDES permit requires the permittee to provide notification and a letter of explanation outlining the actions taken, or to be taken, to correct all instances of noncompliance. Within 10 days of the date of this letter, please submit a written response to this office addressing all deficiencies cited above.

Henry Angelo, City Manager
City of Bedford
July 20, 2011
Page 4

Please be advised that any violations referenced herein are subject to appropriate enforcement actions pursuant to Chapter 6111 of the Ohio Revised Code. Such actions can result in the imposition of fines of up to \$10,000 per day of violation.

If you should have any questions, please contact this office at (330) 963-1196.

Respectfully,



Ermelindo Gomes
Environmental Engineer
Division of Surface Water

EG:bo

attachments

pc: Jason Milani, Superintendent, City of Bedford (w/attachment)

Attachment A: Bedford WWTP Data Summary (1/2010- 5/2011)							
Station Code	Parameter Name	Units	# of Obs.	# < MDL	Min	Avg	Max
001	Water Temperature	C	516	0	6	14.96	26.5
001	Dissolved Oxygen	mg/l	368	0	5.6	9.35	11.8
001	Total Suspended Solids	mg/l	204	0	1	5.92	17
001	Oil and Grease, Hexane Extr Method	mg/l	34	0	0.2	1.21	3.6
001	Nitrogen, Ammonia (NH3)	mg/l	204	0	0.001	0.20	2.35
001	Nitrite Plus Nitrate, Total	mg/l	67	0	6.63	15.79	26.5
001	Phosphorus, Total (P)	mg/l	204	0	0.21	0.48	1
001	Nickel, Total Recoverable	ug/l	5	5	0	0.00	0
001	Strontium, Total Recoverable	ug/l	5	1	0	189.40	383
001	Zinc, Total Recoverable	ug/l	5	0	16	106.20	296
001	Cadmium, Total Recoverable	ug/l	5	5	0	0.00	0
001	Lead, Total Recoverable	ug/l	5	5	0	0.00	0
001	Chromium, Total Recoverable	ug/l	5	5	0	0.00	0
001	Copper, Total Recoverable	ug/l	17	11	0	6.59	26
001	Chromium, Dissolved Hexavalent	ug/l	5	5	0	0.00	0
001	Fecal Coliform	#/100 ml	84	0	10	188.15	990
001	Flow Rate	MGD	516	0	1.053	2.54	5.011
001	Chlorine, Total Residual	mg/l	215	215	0	0.00	0
001	Mercury, Total (Low Level)	ng/l	17	0	0.39	4.58	8.8
001	Acute Toxicity, Ceriodaphnia dubia	TUa	6	6	0	0.00	0
001	Chronic Toxicity, Ceriodaphnia dubia	TUc	6	5	0	0.21	1.25
001	Acute Toxicity, Pimephales promelas	TUa	6	4	0	0.15	0.6
001	Chronic Toxicity, Pimephales promelas	TUc	6	4	0	0.80	3.4
001	pH, Maximum	S.U.	368	0	6.5	7.09	7.9
001	pH, Minimum	S.U.	368	0	6.4	6.95	7.8
001	CBOD 5 day	mg/l	201	0	2	4.27	12
300	Overflow Occurrence	No./Month	15	0	0	0.00	0
589	Sludge Weight	Dry Tons	1	0	250.4	250.40	250.4
601	Total Suspended Solids	mg/l	204	0	48	161.05	328
601	Mercury, Total (Low Level)	ng/l	17	0	6.73	43.94	135
601	pH, Maximum	S.U.	368	0	7.2	7.82	8.6
601	pH, Minimum	S.U.	368	0	7.1	7.66	8.4
601	CBOD 5 day	mg/l	201	0	20	120.01	424
602	Bypass Occurrence	No./Day	64	0	1	1.00	1
602	Bypass Total Hours Per Day	Hrs/Day	64	0	0.5	11.62	24
602	Total Suspended Solids	mg/l	64	0	0.001	34.56	132
602	Bypass Volume	MGAL	64	0	0.002	0.44	1.655
602	CBOD 5 day	mg/l	64	0	10	24.67	54
801	Water Temperature	C	17	0	2.8	10.55	20.5
801	Dissolved Oxygen	mg/l	17	0	8.1	11.26	14.2
801	pH	S.U.	17	0	7.3	8.16	9.3
801	Nitrogen, Ammonia (NH3)	mg/l	17	1	0	0.06	0.325

Attachment A: Bedford WWTP Data Summary (1/2010- 5/2011)							
Station Code	Parameter Name	Units	# of Obs.	# < MDL	Min	Avg	Max
801	Fecal Coliform	#/100 ml	7	0	80	795.00	3020
801	48-Hr. Acute Toxicity Ceriodaphnia dubia	% Affected	6	5	0	16.67	100
801	96-Hr. Acute Toxicity Pimephales promela	% Affected	6	1	0	6.00	22
801	7-Day Chronic Toxicity Ceriodaphnia dubia	% Affected	6	5	0	16.67	100
801	7-Day Chronic Toxicity Pimephales promelas	% Affected	6	1	0	11.33	32
901	Water Temperature	C	17	0	5.5	12.79	22.1
901	Dissolved Oxygen	mg/l	17	0	8.3	10.71	13.3
901	pH	S.U.	17	0	7.4	8.02	8.6
901	Nitrogen, Ammonia (NH3)	mg/l	17	0	0.001	0.11	0.413
901	Nitrite Plus Nitrate, Total	mg/l	17	0	1.05	8.69	17.25
901	Phosphorus, Total (P)	mg/l	17	0	0.016	0.44	2.65
901	Fecal Coliform	#/100 ml	7	0	5	800.71	3540

Attachment B: Bedford WWTP Final Effluent Violations Summary (1/2010- 5/2011)						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2010	001	Phosphorus, Total (P)	30D Conc	0.7	.70208	1/1/2010
January 2010	001	Phosphorus, Total (P)	7D Conc	0.7	.83333	1/8/2010
January 2010	001	Phosphorus, Total (P)	7D Qty	8.48	8.52113	1/15/2010
February 2010	001	Phosphorus, Total (P)	30D Conc	0.7	.73958	2/1/2010
February 2010	001	Phosphorus, Total (P)	7D Conc	0.7	.75667	2/8/2010
February 2010	001	Phosphorus, Total (P)	7D Conc	0.7	.795	2/15/2010
February 2010	001	Phosphorus, Total (P)	7D Conc	0.7	.72167	2/22/2010
February 2010	001	Phosphorus, Total (P)	7D Qty	8.48	9.72167	2/22/2010
March 2010	001	Phosphorus, Total (P)	7D Conc	0.7	.88333	3/1/2010
March 2010	001	Phosphorus, Total (P)	7D Qty	8.48	9.3072	3/1/2010
March 2010	001	Phosphorus, Total (P)	7D Qty	8.48	9.61491	3/8/2010
April 2010	001	Copper, Total Recovera	30D Conc	16	17.	4/1/2010
May 2010	001	Copper, Total Recovera	30D Conc	16	22.	5/1/2010
August 2010	001	Copper, Total Recovera	30D Conc	16	26.	8/1/2010
August 2010	001	Copper, Total Recovera	1D Conc	25	26.	8/10/2010
September 2010	001	pH, Minimum	1D Conc	6.5	6.4	9/9/2010
September 2010	001	pH, Minimum	1D Conc	6.5	6.4	9/15/2010
October 2010	001	Copper, Total Recovera	30D Conc	16	24.	10/1/2010

Attachment C: Bedford WWTP Plant Bypasses Summary (1/2010- 5/2011)					
Station	Parameter	Units	Date	Reported Value	A Code
602	Bypass Volume	MGAL	1/24/2010	1.63	
602	Bypass Volume	MGAL	1/25/2010	0.716	
602	Bypass Volume	MGAL	2/22/2010	0.034	
602	Bypass Volume	MGAL	2/23/2010	0.044	
602	Bypass Volume	MGAL	3/8/2010	0.048	
602	Bypass Volume	MGAL	3/9/2010	0.875	
602	Bypass Volume	MGAL	3/10/2010	1.372	
602	Bypass Volume	MGAL	3/11/2010	0.376	
602	Bypass Volume	MGAL	3/12/2010	0.006	
602	Bypass Volume	MGAL	3/13/2010	0.195	
602	Bypass Volume	MGAL	3/14/2010	0.007	
602	Bypass Volume	MGAL	3/22/2010	0.013	
602	Bypass Volume	MGAL	3/23/2010	0.024	
602	Bypass Volume	MGAL	4/1/2010		AL
602	Bypass Volume	MGAL	5/14/2010	0.002	
602	Bypass Volume	MGAL	5/31/2010	0.131	
602	Bypass Volume	MGAL	6/28/2010	0.1	
602	Bypass Volume	MGAL	7/1/2010		AL
602	Bypass Volume	MGAL	8/1/2010		AL
602	Bypass Volume	MGAL	9/28/2010	0.296	
602	Bypass Volume	MGAL	10/1/2010		AL
602	Bypass Volume	MGAL	11/25/2010	0.559	
602	Bypass Volume	MGAL	11/26/2010	0.559	
602	Bypass Volume	MGAL	11/30/2010	0.569	
602	Bypass Volume	MGAL	12/1/2010	0.19	
602	Bypass Volume	MGAL	12/11/2010	0.437	
602	Bypass Volume	MGAL	12/31/2010	0.276	
602	Bypass Volume	MGAL	1/1/2011	0.964	
602	Bypass Volume	MGAL	2/14/2011	0.456	
602	Bypass Volume	MGAL	2/15/2011	0.008	
602	Bypass Volume	MGAL	2/16/2011	0.84	
602	Bypass Volume	MGAL	2/17/2011	1.117	
602	Bypass Volume	MGAL	2/18/2011	0.165	
602	Bypass Volume	MGAL	2/21/2011	0.494	
602	Bypass Volume	MGAL	2/22/2011	0.045	
602	Bypass Volume	MGAL	2/27/2011	0.362	
602	Bypass Volume	MGAL	2/28/2011	1.144	
602	Bypass Volume	MGAL	3/1/2011	0.025	
602	Bypass Volume	MGAL	3/4/2011	0.041	
602	Bypass Volume	MGAL	3/5/2011	1.602	
602	Bypass Volume	MGAL	3/6/2011	0.136	
602	Bypass Volume	MGAL	3/7/2011	0.002	

Attachment C: Bedford WWTP Plant Bypasses Summary (1/2010- 5/2011)					
Station	Parameter	Units	Date	Reported Value	A Code
602	Bypass Volume	MGAL	3/9/2011	0.29	
602	Bypass Volume	MGAL	3/10/2011	1.123	
602	Bypass Volume	MGAL	3/11/2011	0.212	
602	Bypass Volume	MGAL	3/12/2011	1.458	
602	Bypass Volume	MGAL	3/13/2011	0.276	
602	Bypass Volume	MGAL	3/14/2011	0.256	
602	Bypass Volume	MGAL	3/15/2011	0.411	
602	Bypass Volume	MGAL	3/16/2011	0.127	
602	Bypass Volume	MGAL	4/4/2011	1.01	
602	Bypass Volume	MGAL	4/5/2011	0.157	
602	Bypass Volume	MGAL	4/8/2011	0.271	
602	Bypass Volume	MGAL	4/19/2011	0.979	
602	Bypass Volume	MGAL	4/20/2011	0.699	
602	Bypass Volume	MGAL	4/22/2011	0.406	
602	Bypass Volume	MGAL	4/23/2011	0.409	
602	Bypass Volume	MGAL	4/24/2011	0.051	
602	Bypass Volume	MGAL	4/25/2011	0.883	
602	Bypass Volume	MGAL	4/26/2011	0.189	
602	Bypass Volume	MGAL	5/3/2011	0.534	
602	Bypass Volume	MGAL	5/4/2011	0.003	
602	Bypass Volume	MGAL	5/18/2011	0.039	
602	Bypass Volume	MGAL	5/23/2011	0.526	
602	Bypass Volume	MGAL	5/24/2011	0.12	
602	Bypass Volume	MGAL	5/25/2011	0.034	
602	Bypass Volume	MGAL	5/26/2011	1.655	
602	Bypass Volume	MGAL	5/27/2011	0.01	