Ohio | Environmental Protection Agency

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

December 28, 2011

Mayor and Council
City of Bellefontaine
135 N. Detroit Street
Bellefontaine, Ohio 43311

RE: City of Bellefontaine WWTP Reconnaissance Inspection, NPDES Permit No. 1PD00000*OD/OH0024066, Logan County

Dear Mayor and Council:

On December 22, 2011 Joe Reynolds conducted a Reconnaissance Inspection at the Bellefontaine waste water treatment plant. The inspection was conducted as part of a compliance review with respect to the city's National Pollutant Discharge Elimination System (NPDES) permit.

The findings from the inspection are included in the attached report. The report includes one item that requires a response. Please provide a written response by no later than February 17, 2012. If you have any questions regarding the report, please call Mr. Reynolds at (937) 285 - 6097.

Sincerely,

Martyn Burt
Compliance Supervisor
Division of Surface Water

cc: Charlie Knotts, Wastewater Superintendent
Tim Notestine, City Engineer

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OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PD00000*OD	OH0024066	12/22/2011	R	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
City of Bellefontaine WWTP 610 South Troy Street Bellefontaine, Ohio 43311	10:00 AM	4/1/2011
	Exit Time	**Permit Expiration Date**
	12:30 PM	1/31/2016
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
Charlie Knotts, Superintendent	(937) 593 - 9095	
Name, Address and Title of Responsible Official	**Phone Number**	
Mayor and Council City of Bellefontaine 135 N. Detroit Street Bellefontaine, Ohio 43311	(937) 592 - 4376	

Section C: Areas Evaluated During Inspection (S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	S	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	N	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	N	Sludge Storage/Disposal	N	Other
M	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

Attached are the inspection findings.

Inspector	Reviewer
12/28/11	12/28/11
Joe Reynolds — Date Division of Surface Water Southwest District Office	Martyn Burt — Date Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Inspection Findings

The City of Bellefontaine owns and operates a waste water treatment plant located at 610 South Troy Street. The city holds National Pollutant Discharge Elimination System (NPDES) permit number 1PD00000*OD for the waste water discharge.

On October 15, 2009 Permit to Install number 710010 was issued for a treatment system expansion. The upgrade included the addition of fine screens, a new secondary clarifier, three new sludge pumps, UV disinfection, and an effluent flow meter. With this upgrade the plant design flows was increase to 4.5 MGD, with a peak design of 15.75 MGD. The upgrade was completed in the summer of 2011. The system was installed in accordance with the approved plans. One maintenance item, the cleaning of the oxidation ditched, could not be completed due to issues with final effluent ammonia levels. The city is investigating the use of a dredge to complete this part of the project later.

A new influent flow splitter box was added as part of the plant upgrade. The splitter box divides flow between the old bar screen and new fine screens.

The new influent fine screens are rated at 8 mgd each. A level sensor in the influent channel is used to activate the screens. An automatic over ride system activates both screens when flows exceed 9 mgd. The screens include a screw conveyor and dewatering system prior to disposal in a dumpster. The old bar screen is still available in a parallel channel. The new fine screens have helped reduce the amount of preliminary solids (rags, plastics, etc.) that enter the secondary treatment system.

Existing weir gates are used to divide flows between the two ditches. New effluent weirs and a new effluent channel were added to the ditches. The effluent weirs are automated to allow for automatic adjustments based upon flow. All four aerators are being run at the same time to help maintain mixing and aeration in the ditches. The mixed liquor was dark with a small amount of brown foam on the surface.

The clarifier splitter box was modified to allow for flows to be split between two existing, and one new clarifier. The weir gates in the splitter box are automated for remote control. The new clarifier has a covered weir and trough. There was some floating grease on the surface. The effluent was clear.

Inspection Findings (continued)

Three new Return Activated Sludge (RAS) pumps were installed as part of the upgrade. The pumps also include new 40 horse power motors. The wasting valves also were replaced. A new rail and crane system was installed to allow for removal of the pump assemblies.

As part of the upgrade, a dog leg in the secondary effluent sewer (30" sewer) was removed. This eliminated a bottle neck and allows for unrestricted flow to the disinfection system.

The old chlorine contact tank was converted to a UV tank. The baffles were removed from one half of the tank, and two banks of UV lights were added. Each bank has eight modules with 8 lamps in each module. A Trojan touch control system is used to control lead and lag times for each bank. As flows approach 8 mgd the second bank is placed on line. The bulbs are self-cleaning. The other half of the chlorine tank is available for use as a storage / buffer tank.

The old disinfection tank was converted to house the new effluent magnetic flow meter.

A new decant systems was added to the sludge holding tanks. This will allow for improved sludge thickening prior to the dewatering system.

In addition to the physical plant upgrade, the initial phase of an upgrade to the plants data collection and recording system was completed. A new Supervisory Control and Data Acquisition (SCADA) system was installed. Essential treatment systems (screens, clarifiers, digester, ultraviolet disinfection, digesters, and RAS / WAS pumps) are monitored on individual screens. All treatment system alarms are tied to the SCADA. A private security firm monitors for alarms and notifies plant personnel.

The city continues to work on removing clear water (infiltration and inflow) from the sewer system. Influent flows will increase during storm events. A review of flow data for the first 11 months of 2011 revealed an average flow of 3.3 mgd and a maximum of 11.8 mgd.

A review of the electronic discharge monitoring reports (EDMR's) from January, 2011 through November, 2011 revealed 5 ammonia violations and 1 mercury violation. Most of the violations were associated with reduced treatment capacity during the plant upgrade.

Inspection Findings (continued)

At the time of the inspection it was noted that the entire riparian cover on the South side of Possum Run and part of Blue Jacket Creek had been removed by the neighboring property owner. This creates the potential for bank erosion and sediment run-off in these areas.

Item Requiring a Response

1. Please provide a written response detailing the infiltration and inflow work completed in the past year and planned for the upcoming year. This update should include expenditures as they pertain to the following items: training, safety, system mapping, TV inspection, smoke and dye testing, sewer cleaning, manhole inspection, lift station inspection, capacity assessment, and overflow emergency response.