



**Environmental  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korreski, Director

October 27, 2010

Logan County Board of Commissioners  
117 East Columbus Street, Suite 100  
Bellefontaine, Ohio 43311

**RE: Flat Branch WWTP Compliance Evaluation Inspection / Notice of Violation.**

Dear Board of Commissioners:

On October 22, 2010, Joe Reynolds conducted a Compliance Evaluation Inspection at the Flat Branch waste water treatment plant. The inspection was conducted as part of a compliance review of the plant with respect to the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) permit issued to the county.

The findings from this inspection are included in the attached report. The report contains two items that require a response. Please provide a written response to these items by no later than November 22, 2010.

If you have any questions regarding the report, you may contact Joe Reynolds at (937) 285-6097.

Sincerely,

Martyn G. Burt  
Division of Surface Water

Enclosure

cc: Garis Pugh, District Manager  
Ron Jacob, Operations Manager  
Dan Mabry, Operator of Record



State of Ohio Environmental Protection Agency  
Southwest District Office

### NPDES Compliance Inspection Report

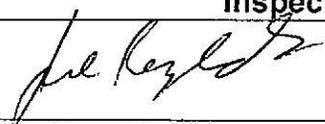
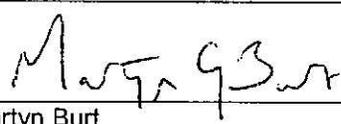
Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PP00006*GD	OH0047953	10/22/2010	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Flat Branch WWTP 11046 Township Road 157 East Liberty, Ohio 43319	10:20AM	8/1/2006
	Exit Time	Permit Expiration Date
	12:45PM	1/31/2011
Name(s) and Title(s) of On-Site Representatives		Phone Number(s)
Ron Jacob, Operations Manager Dan Mabry, Operator		(937) 843 - 3328
Name, Address and Title of Responsible Official		Phone Number
Logan County Board of Commissioners 117 East Columbus Street, Suite 100 Bellefontaine, Ohio 43311		(937) 599 - 7284

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	S	Sludge Storage/Disposal	N	Other
N	Collection System				

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

See attached report.

Inspector	Reviewer
 Joe Reynolds Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
10/27/10 Date	10/27/2010 Date

Permit # : 1PP00006\*GD  
NPDES # : OH0047953

Sections E thru K: Complete on all inspections as appropriate  
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

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**Section E: Permit Verification**

Inspection observations verify the permit

- |  |     |
|--|-----|
| (a) Correct name and mailing address of permittee .....                        | Y   |
| (b) Flows and loadings conform with NPDES permit.....                          | Y   |
| (c) Treatment processes are as described in permit application...              | Y   |
| (d) All discharges are permitted.....  | Y   |
| (e) Number and location of discharge points are as described<br>in permit..... | Y   |
| (f) Storm water discharges properly permitted.....                             | N/A |

Comments/Status:

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**Section F: Compliance**

- |   |     |
|---|-----|
| (a) Any significant violations since the last inspection.....           | N   |
| (b) Appropriate Non-compliance notification of violations.....          | Y   |
| (c) Permittee is taking actions to resolve violations.....              | N/A |
| (d) Permittee has a compliance schedule.....                            | N/A |
| (e) Compliance schedule contained in...N/A                              |     |
| (f) Permittee is in compliance with schedule.....                       | N/A |
| (g) Has biomonitoring shown toxicity in discharge since last inspection | N/A |

Comments/Status:

**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

(a) Standby power available.....generator  or dual feed  ..... Y

i. What does the back-up power source operate.....

The on-site generator is no longer in use. The county uses a portable generator as a back-up. All essential treatment units are powered.

ii. How often is the generator tested under load.....

The system is wired for the portable, but not tested.

(b) Which components have an alarm system available for power or equipment failures.....

No alarms. Plant is staffed five days per week.

(c) All treatment units in service other than backup units..... Y

(d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....

The Antero maintenance package is used. It will generate work orders.

(e) Any major equipment breakdown since last inspection..... N

(f) Operation and maintenance manual provided and maintained..... Y

(g) Any plant bypasses since last inspection..... N

(h) Any plant upsets since last inspection..... N

**Comments/Status:**

One of the raw influent pumps was rebuilt. The second pump will be rebuilt later in the year.

**Section G: Operation & Maintenance con't**

**Record Keeping/Operator of Record:**

- (a) Wastewater Treatment Works classification (OAC 3745-7)..... I
- (b) Operator of Record holds unexpired license of class required by Permit..... Y
- (c) Copy of certificate of Operator of Record displayed on-site..... Y
- (d) Has the Operator of Record submitted an ORC Notification form.. Y
- (e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... Y
- (f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met..... N/A
- (g) Operator of Record log book provided..... Y
- (h) Format of log book (e.g. computer log, hard bound book)  

Hard bound book.
- (i) Log book kept onsite (in an area protected from weather)..... Y
- (j) Log book contains the following:
  - I. Identification of treatment works..... Y
  - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... Y
  - iii. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)..... Y
  - iv. Laboratory results (unless documented on bench sheets)... Y
  - v. Identification of person making entries..... Y
- (k) Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... N/A

**Comments/Status:**

**Section G: Operation & Maintenance con't**

**Collection System:**

- (a) Are there pump stations in the collection system..... Y
  - i. How many publicly-owned pump stations equipped with permanent standby power or equivalent.....0
  - ii. How many pump stations have telemetered alarms.....0
  - iii. How many pump stations have operable alarms.....NE
  
- (b) Any chronic collection system overflows since last inspection..... N
- (c) Regulatory agency notified of all overflows..... N/A
- (d) Are there CSOs in the collection system..... N/A  
if so, what is the LTCP status.....  

NA
  
- (e) How are CSOs monitored (chalk, block, level sensor, etc.).....  

NA
  
- (f) Portable pumps available for collection system maintenance..... Y
- (g) RDII Program established and active..... Y
- (h) Any WIB complaint received since last inspection..... N
- (i) Is there a WIB response plan..... Y
- (j) Is any portion of the collection system at or near dry weather capacity..... N

**Comments/Status:**

All of the lift stations are privately owned. The Flat Branch system will be included as part of the CMOM work being performed at Indian Lake.

**Section H: Sludge Management**

- (a) Method of Sludge Disposal...  Land Application  
 Haul to Another NPDES Permittee  
 Haul to a Mixed Solid Waste Landfill

\*if one of the selected methods is land application, complete applicable charts.

**Class A - Exception Quality Sewage Sludge (monitoring station 584)**

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 - Aerobic Bench Scale Analysis	Option 4 - Specific Oxygen Uptake Rate	Option 5 - Aerobic Time and Temperature	Option 6 - Alkali Addition	Option 7 - >75% Percent Solids without Unstabilized Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 - Time and Temperature Regime (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - High pH and High Temperature (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 - Other Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 4 - Unknown Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Composting (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Drying (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Treatment (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Thermophilic Aerobic Digestion (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Beta Ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Gamma ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Pasteurization (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 6 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Class B Sewage Sludge (monitoring station 581)**

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options									
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 - Aerobic Bench Scale Analysis	Option 4 - Specific Oxygen Uptake Rate	Option 5 - Aerobic Time and Temperature	Option 6 - Alkali Addition	Option 7 - >75% Percent Solids without Unstabilized	Option 8 - >75% Percent Solids with Unstabilized	Option 9 - Land Injection	Option 10 - Immediate Incorporation
Alternative 1 - Geometric Mean of Seven Fecal Samples (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Aerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Air Drying (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Anaerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Composting (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Lime Treatment (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (b) Has amount of sludge generated changed significantly since the last inspection..... N
- (c) How much sludge storage is provided at the plant.....
- (d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y
- (e) Any complaints received in last year regarding sludge..... N
- (f) 5/8" screen at headworks for facilities that land apply sludge..... N/A
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/A
- (h) Is a contractor used for sludge disposal..... Y  
 If so, what is the name of the contractor.....

**Comments/Status:**

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**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):  

Mag. meter on influent.
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- (b) Flow meter calibrated annually ..... N  
(Date of last calibration: )
- (c) 24-hour recording instruments operated and maintained..... N
- (d) Flow measurement equipment adequate to handle full range of flows..... Y
- (e) All discharged flow is measured..... Y

**Comments/Status:**

The county is going to replace the flow meter with a flume and sonic meter. The new meter will be located on the disinfection effluent. The current meter set-up includes some recycle flows.
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**Section I: Self-Monitoring Program (con't)**

**Sampling:**

- (a) Sampling location(s) are as specified by permit..... Y
- (b) Parameters and sampling frequency agree with permit..... Y
- (c) Permittee uses required sampling method..... Y  
(see GLC page)
- (d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

**Comments/Status:**

Influent samples are composited at the influent to equalization. Effluent samples are composited at the effluent to the disinfection system.
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**Section I: Self-Monitoring Program (con't)**

**Laboratory:**

*General*

- (a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... N/E
- (b) Do SOP's include the following if applicable..... N/E
  - Title
  - Scope and Application
  - Summary
  - Sample Handling and Preservation
  - Interferences
  - Apparatus and Materials
  - Reagents
  - Procedure
  - Calculations
  - Quality Control
  - Maintenance
  - Corrective Action
  - Reference (Parent Method)

*Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of known precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.*

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. N/E
- (d) If alternate analytical procedures are used, proper approval has been obtained..... N/E
- (e) Analyses being performed more frequently than required by permit. N
- (f) If (e) is yes, are results in permittee's self-monitoring report..... N/A
- (g) Satisfactory calibration and maintenance of instruments/equipment. N/E (see score from GLC page)
- (h) Commercial laboratory used..... N  
Parameters analyzed by commercial lab: Most of the lab analysis is performed at the Indian Lake WWTP lab.

Lab name:

**Discharge Monitoring Report Quality Assurance (DMRQA)**

- (a) Participation in latest USEPA quality assurance performance sampling..... N  
Date:
- (b) Were any parameters "Unsatisfactory"..... N/A
- (c) Reasons for "Unsatisfactory" parameters.....

**Comments/Status:** The chlorine meter does not meet slope due to an unknow interference.

**Section J: Effluent/Receiving Water Observations**

Outfall # 001

Outfall Description: Clear, no solids, no foam.

Receiving Stream: Big Darby

Receiving Stream Description: Clear sandy bottom, no solids.

**Comments/Status:**

**Section K: Multimedia Observations**

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- (e) Do you notice any unusual odors or strong chemical smells..... Y
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

If any of the above are observed, ask the following questions:

- (1) What is the cause of the condition?
- (2) Is the observed condition or source a waste product?
- (3) Where is the suspected contaminant normally disposed?
- (4) Is this disposal permitted?
- (5) How long has the condition existed and when did it begin?

**Comments/Status:**

There was a slight irritation noted in the disinfection building. The source may be attributed to a housed disinfection system and gas release from the system. This is not a waste product. The condition would be associated with disinfection season May through October.

## Inspection Findings

National Pollutant Discharge Elimination System (NPDES) permit number 1PP00006\*GD was issued to the Logan County Board of Commissioners on June 27, 2006. This permit expires on January 31, 2011.

The NPDES permit contains a compliance schedule for meeting low level mercury limits. On October 13, 2010 the county submitted a letter stating they will be able to meet the new mercury limits.

The Flat Branch treatment system consist of an influent pump station, bar screen, equalization, aeration, clarification, rapid sand filter, and chlorination / dechlorination / post aeration.

New Geyser return pumps have been added to the clarifiers. These pumps have helped to improve return rates and have saved the county on air usage.

The county is currently developing plans for a UV disinfection system and effluent parshall flume flow monitoring system. These systems will replace the existing chlorine system, and influent flow meter. All disinfection systems must be designed to meet new e-coli limits that will apply as part of the NPDES renewal permit.

An alarm system designed to notify plant personnel of power and equipment failures will need to be installed at the plant.

The NPDES renewal will require effluent flow monitoring.

The Middleburg sanitary sewer project has been placed on hold while a funding package is developed.

An operator log books is being kept in accordance with OAC 3745-7-09 (A).

Currently the sewer district hauls all waste solids (from drying beds) to a sanitary landfill. Allied Waste provides contract hauling services.

Between January 1, 2009 and September 30, 2010 the sewer district reported the following final effluent violation: (1) chlorine residual violation.

## Facility Inspection

The influent lift station pumps flows to the influent bar screen and equalization tank. A separate blower provides air to the equalization system.

From equalization flow is pumped to two 50,000 aeration tanks. These tanks are set-up in parallel. Two aeration blowers provide air to the tanks. The aeration piping and diffusers (coarse air) in both tanks were recently replaced.

The plant has a two stage clarification system, final clarifiers and a lamella polishing clarifier. The final clarifiers had a clear zone over 4 feet. Pin floc solids were rising in the clarifiers. Filamentous algae was growing on the weirs, sides and hoppers. Plywood was placed over the skimmer return channel to control algae growth. The effluent was clear.

Effluent from the clarifiers enters a lamella clarifier for polishing. The effluent was clear.

The old rapid sand filter has been removed. The tank is used as a clear well which feeds the disinfection system. Chlorine is feed to the effluent of this tank.

A separate chlorine room houses the chlorination / dechlorination tank. The tank is baffled to allow for additional chlorine contact time. Dechlorination chemicals are added prior to the effluent. Final effluent samples are collected at the tank discharge. The effluent was clear, no solids no foam.

While in the chlorination / dechlorination room a slight respiratory irritation was noted. The irritation cleared up after we left the building. Positive ventilation should be maintained in this room until the chemicals are removed at the end of the chlorine season, October 31. This system will be replaced with a new UV system prior to next year's disinfection season.

## Items requiring a response

1. A preliminary schedule for installation of the new UV system and final effluent flow meter must be submitted to this office. This schedule must be submitted by no later than November 22, 2010.
2. An alarm system designed to notify plant personnel of power or equipment failures must be installed at the facility. A preliminary schedule for installation of the alarm system must be submitted to this office by no later than November 22, 2010.