



**Environmental  
Protection Agency**

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



\*1PD0000520071031\*

DARKE

GREENVILLE WWTP

MILLER, JOSEPH

2007/10/31



State of Ohio Environmental Protection Agency

**Southwest District Office**

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Dayton, Ohio 45402

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

October 29, 2007

Mayor and Council  
City of Greenville  
100 Public Square  
Greenville, OH 45331

**RE: Compliance Evaluation Investigation (CEI)  
City of Greenville Wastewater Treatment Plant  
NPDES Permit 1PD00005\*KD/OH0025429  
Greenville, Darke County**

Mayor and Council:

On October 18, 2007, I conducted a Compliance Evaluation Investigation at the City of Greenville wastewater treatment works. This inspection was conducted to determine compliance with the NPDES discharge permit and to discuss renewal of this permit. A. Vaughn Downey, Steve Singer, and Lucian Blier represented the City. Jacob Howdyshell, Ohio EPA-DSW, reviewed the City's sewage sludge program.

Overall, the facility was rated as Satisfactory; however, there were some items which require attention. These items have been detailed in the "Items Requiring a Response" section of the inspection report.

Provide a response to the "Items Requiring a Response" section of the inspection report by **November 23, 2007**. Your response should include items completed or planned to be completed to address identified issues. If you have any questions, I can be reached at (937) 285-6109 or by email at [joe.miller@epa.state.oh.us](mailto:joe.miller@epa.state.oh.us).

Sincerely,

Joe Miller  
Division of Surface Water  
Compliance and Enforcement

CC: Steve Singer, Consultant  
Darke County Health Department  
Elizabeth Somogyi, CO-DSW





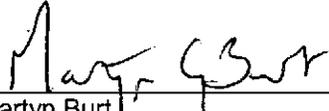
State of Ohio Environmental Protection Agency  
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PD00005*KD	OH0025429	10/18/07	C	S	11

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
City of Greenville WWTP 209 North Ohio Street Greenville, OH 45331	9:15 AM	1/2/2003
	Exit Time	Permit Expiration Date
	1:30 PM	12/31/2007
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Vaughn Downey, Wastewater Superintendent	937-548-3530	
Steve Singer, Consultant	513-260-4123	
Lucian Blier, Wastewater Operator 2	937-548-3530	
Name, Address and Title of Responsible Official	Phone Number	
Mayor and Council City of Greenville 100 Public Square Greenville, OH 45331	937-548-1482	

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
<p>Flow measurement recorded as AF during high flows due to back up of effluent in flow measurement, chlorine contact tank, and post-aeration tank. For this reason, flow measurement was rated as marginal. A means to report this flow accurately needs to be determined.</p> <p>Records/Reports rated as marginal due to failure to maintain operator log book as per Ohio Administrative Code 3745-7.</p> <p>Facility Site Review rated as marginal due to inconsistent weir overflows on clarifier.</p>	
Inspector	Reviewer
 Joseph Miller Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
10-29-07 Date	10/29/07 Date

Permit # : 1PD00005\*KD  
NPDES #: OH0025429

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

**Section E: Permit Verification**

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee ..... Y
- (b) Correct name and location of receiving waters..... Y
- (c) Product(s) and production rates conform with permit application (Industries)..... N/A
- (d) Flows and loadings conform with NPDES permit..... Y
- (e) Treatment processes are as described in permit application... N
- (f) New treatment process(es) added since last inspection..... N
- (g) Notification given to State of new, different or increased discharges..... N/A
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

Comments/Status:

3 of 4 final clarifiers on line due to low average flow.

**Section E: Permit Verification**

- (a) Any significant violations since the last inspection..... Y
- (b) Permittee is taking actions to resolve violations..... Y
- (c) Permittee has a compliance schedule..... Y
- (d) Compliance schedule contained in
- (e) Permittee is meeting compliance schedule..... N/E

Comments/Status:

High flows in January 2005, March 2006, June 2006, December 2006, January 2007, February 2007, and March 2007 were recorded with an "AF" Code (High Stream Water Inundates Sample Site) for a number of parameters.

Compliance Schedule in permit for pretreatment local limits (reviewed separately).



**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

- (a) Standby power available.....generator  or dual feed ..... Y
- (b) Adequate alarm system available for power or equipment failures.. Y
- (c) All treatment units in service other than backup units..... N
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... III
- (e) Operator of Record holds unexpired license of class required by permit..... Y  
 Class: I
- (f) Copy of certificate of Operator of Record displayed on-site..... Y
- (g) Minimum operator staffing requirements fulfilled (OAC 3745-7)... Y
- (h) Routine and preventative maintenance scheduled/performed... Y
- (i) Any major equipment breakdown since last inspection..... N
- (j) Operation and maintenance manual provided and maintained.... Y
- (k) Any plant bypasses since last inspection..... N
- (l) Regulatory agency notified of bypasses..... N/A  
 On MORs  and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... Y

**Record Keeping:**

- (a) Log book provided..... N
- (b) Format of log book (i.e. computer log, hard bound book)  

**Operators were unaware of requirements, OAC 3745-7 sections attached.**
- (c) Log book(s) kept onsite (in an area protected from weather)..... N
- (d) Log book contains the following:
  - I. Identification of treatment works..... N
  - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... N
  - III. Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... N
  - IV. Laboratory results (unless documented on bench sheets)... N/E
  - V. Identification of person making log entries..... N
- (d) Has the operator of record submitted written notification 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



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

**Collection System:**

- (a) Percent combined system: 0%
- (b) Any collection system overflows since last inspection..... N  
(CSO  and/or SSO )
- (c) Regulatory agency notified of overflows (SSOs)..... N/A
- (d) CSO O&M plan provided and implemented..... N/A
- (e) CSOs monitored and reported in accordance with permit..... N/A
- (f) Portable pumps used to relieve system..... Y
- (g) Lift station alarms provided and maintained..... Y
- (h) Are lift stations equipped with permanent standby power  
or equivalent.....(2 of 13) ..... Y
- (i) Is there an inflow/infiltration problem (separate sewer system),  
or were there any major repairs to collection system since  
last inspection..... Y
- (j) Any complaints received since last inspection of basement flooding N/E
- (k) Are any portions of the sewer system at or near capacity..... N

**Comments/Status:**

13 lift stations are alarmed, but no telemetry. SCADA control planned w/in two years.  
11 of 13 lift station do not have standby power.  
4 residential flapper/backflow prevention valves installed to prevent backups.  
City has a vac truck and portable 3" trash pump.  
Lift stations are checked daily for proper operation.  
Street department receives and evaluates merit of basement backup/flooding calls.



**Section H: Sludge Management**

- (a) Sludge management plan (SMP)  
Submitted date:4/99Approval #:05-392PW      Not submitted       N/A
- (b) Sludge management plan current..... Y
- (c) Sludge adequately disposed..... Y  
(Method: land application)
- (d) If sludge is incinerated, where is ash disposed of
- (e) Is sludge disposal contracted..... Y  
(Name: Synagro)
- (f) Has amount of sludge generated changed significantly since  
last inspection..... N
- (g) Adequate sludge storage provided at plant..... Y
- (h) Land application sites monitored and inspected per SMP..... N/E
- (i) Records kept in accordance with State and Federal law..... Y
- (j) Any complaints received in last year regarding sludge..... N
- (k) Is sludge adequately processed (digestion, pathogen control)..... Y

**Comments/Status:**

Jacob Howdyshell, CO-DSW, evaluated sludge disposal and will provide a detailed report. Sludge terraces near landfill have accumulation of sludge with overgrowth from past usage.

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary flow measuring device operated and maintained..... Y  
Type of device: Ultrasonic & Parshall flume       Ultrasonic & Weir       Weir   
Calculated from influent       Other  (Specify:      )
- (b) Calibration frequency adequate ..... Y  
(Date of last calibration: continuous w/ SCADA)
- (c) Secondary instruments operated and maintained..... Y
- (d) Flow measurement equipment adequate to handle full range  
of flows..... Y
- (e) Actual flow discharged is measured..... Y
- (f) Flow measuring equipment inspection frequency  
Daily Weekly monthly other

**Comments/Status:**

Discharge flow backs up into chlorine contact tank and post-air tank during high flows making flow measurement inaccurate. Operator has reported this as "AF" on monthly reports.



**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
- (d) Sample collection procedures are adequate..... Y
  - (i) Samples refrigerated during compositing..... Y
  - (ii) Proper preservation techniques used..... Y
  - (iii) Containers and sample holding times prior to analysis conform with 40 CFR 136.3..... Y
- (e) 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
- (f) Adequate records maintained of sampling date, time, location, etc.. Y

**Laboratory:**

*General*

- (a) EPA approved analytical testing procedures used (40 CFR 136.3).. Y
- (b) If alternate analytical procedures are used, proper approval has been obtained..... N/A
- (c) Analyses being performed more frequently than required by permit. N
- (d) If (c) is yes, are results in permittee's self-monitoring report..... N/A
- (e) Commercial laboratory used..... Y

Parameters analyzed by commercial lab: O&G, TP, hardness, metals, TKN, NO2-NO3  
Lab name: Belmonte Laboratories

*Quality Control/Quality Assurance*

- (f) Quality assurance manual provided and maintained..... Y
  - (g) Satisfactory calibration and maintenance of instruments/equipment. Y
  - (h) Adequate records maintained..... Y
  - (i) Results of latest USEPA quality assurance performance sampling program:  Satisfactory  Marginal  Unsatisfactory
- Date:

**Comments/Status:**

DMRQA results satisfactory



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

Outfall Number	Oil sheen	Grease	Turbidity	Visible Foam	Visible Floating Solids	Color	Other
001	No	No	No	No	No	Clear	algae

**Comments/Status:**

**Section K: Multimedia Observations**

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



Permit # : 1PD00005\*KD  
NPDES #: OH0025429



**City of Greenville WWTP  
Compliance Evaluation Inspection (CEI)  
June 22, 2006**

**Overview**

The Greenville WWTP discharges to Greenville Creek in Darke County. The subsequent stream network is the Stillwater River to the Great Miami River. The City of Greenville WWTP is designed to treat an average daily flow of 3.5 million gallons per day (MGD). Industrial flow contributions are estimated at 47,000 gpd. Average flow from January 2003 to September 2007 was reported to be 2.28 MGD. This may be artificially low, due to reporting of flows in excess of 6 MGD as "AF", or High Stream Water Inundates Sampling Site. This method of reporting has been used since January 2006.

The wastewater treatment train consists of raw screening bar racks, coarse and fine screening, grit and grease removal, flow equalization, activated sludge aeration oxidation ditches, secondary clarification, disinfection chlorination, and dechlorination. Solid stream processes are sludge stabilization by aerobic digestion followed by land application at agronomic rates. Sludge disposal is contracted by Synagro, Inc.

There are four final clarifiers enumerated 9, 10, 11, and 12. At the time of inspection, clarifier number 11 was offline due to low average flow. Previous inspection had noted poor surface skimming of the clarifiers. The operators were in the process of rebuilding the skimmers to function effectively. The weirs on clarifiers 11 and 12 are approximately one half inch to one inch higher than those on clarifiers 9 and 10. The weir on clarifier 12 was not providing equal distribution of flow and was losing solids at the time of inspection.

The City is still evaluating sludge processing and WWTP improvements. Sludge is currently processed by aerobic digestion then sent to storage by force main to a sludge tank near the Greenville landfill. Jacob Howdysshell, CO-DSW, will provide a detailed inspection report of Greenville's sludge processing under a separate cover. One item discussed was the collection of water from the underdrains of the sludge terraces near the Greenville landfill. These drains enter the supernatant lagoon and are subsequently pumped back to the WWTP. The sludge terraces are no longer used, but have sludge deposits from approximately sixteen years ago. This area has long since become overgrown in vegetation.



## **Nutrient Removal**

In "Total Maximum Daily Loads for the Stillwater River Basin" prepared in 2004, total phosphorus was found to be an order of magnitude higher than the river's assimilative capacity. Reductions are needed in agricultural phosphorus application, storm water and on-site system phosphorus discharges, and municipal phosphorus discharges.

As discussed in previous inspection reports, Greenville's NPDES renewal will include a schedule of compliance to reduce total effluent phosphorus. An interim effluent total phosphorus concentration limit of one milligram per liter (1 mg/l) is expected to be achieved within the first thirty-six months (36) of the permit cycle. This target has been selected due to the technical feasibility of achieving this concentration. The permit would also include a phosphorus loading limitation associated with this concentration and Greenville's average wastewater design flow of 3.5 million gallons per day.

In meeting a one milligram per liter (1 mg/l) concentration and loading of 13.25 kilograms per day, Greenville will be permitted to discharge more than the final allocated load. The schedule of compliance will include specific language to evaluate all options to reduce total phosphorus loading to the final allocated load of 7.35 kilograms per day. The alternatives may include, but are not limited to: implementation of nonpoint source loading reduction projects; implementation of projects that increase the capacity of the receiving waters to assimilate total phosphorus loads; entering into cooperative agreements with other parties to implement projects that will achieve the cumulative, basin-wide point source loading reductions identified in the report "Total Maximum Daily Loads for the Stillwater River"; and/or upgrading the existing wastewater treatment facilities. The TMDL report can be obtained at the following web address: [http://www.epa.state.oh.us/dsw/tmdl/StillwaterTMDL\\_final.pdf](http://www.epa.state.oh.us/dsw/tmdl/StillwaterTMDL_final.pdf). The final allocation of 7.35 kilograms per day (approximately 0.55 mg/l concentration) is expected to be met by any combination of the above means within one-hundred eighteen months (118).



## **Infiltration and Inflow**

The City continues to address infiltration and inflow (I/I) into the collection system. The southwest section of the City's collection system is being analyzed by camera. Manhole saucers have been installed in about half of the manholes. In addition, sanitary sewers identified as concerns are being grouted as are about 10 manholes a year. The City is increasing fees to account for storm water improvements. Enforcement of the City's clean water connection ban is an effective way to eliminate the connection of downspouts and sump pumps to the sanitary sewer and thereby additional storm water inputs.

## **Outfall signage**

The NPDES permit renewal will include language regarding the installation of an identification sign at the wastewater outfall. The sign shall include, at minimum, the name of the permittee, the permit number, and the outfall number identified in the permit. The sign is to be at least two feet by two feet and the bottom of the sign shall be a minimum of three feet off of the ground. A contact number is recommended.

## **Operator Log Book**

Changes in OAC 3745-7-09 (attached) include additional record keeping information for operators. The following bullets are some of the items to note:

- A log book is to be maintained by the operator on-site
- The log book should contain the following:
  - Identification of treatment works
  - Date/times of arrival/departure for Operator of Record and any other operator required
  - Daily record of operation and maintenance activities (including preventative maintenance, repairs, and request for repairs)
  - Laboratory results (unless documented on bench sheets)
  - Identification of person making log entries

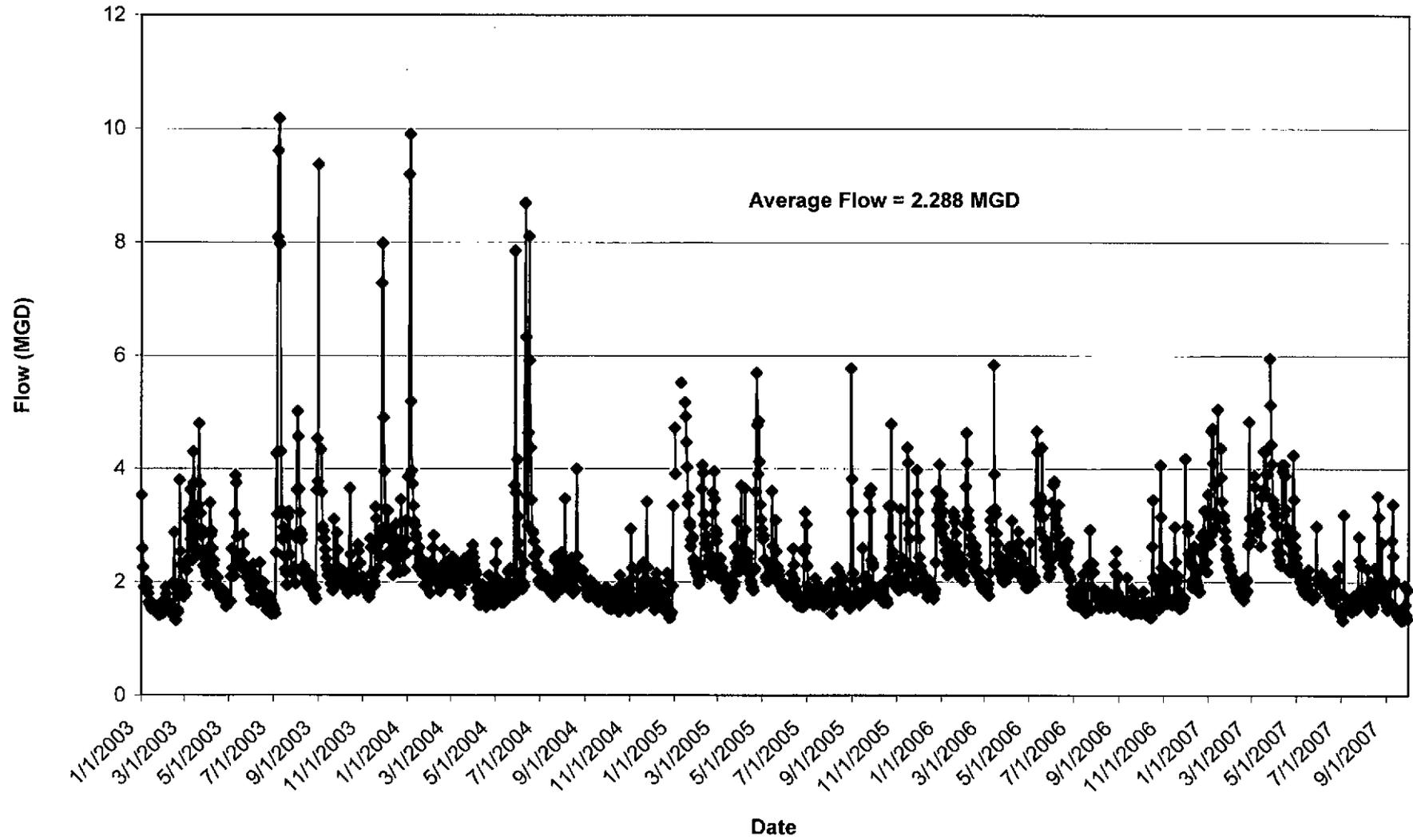


## ITEMS REQUIRING A RESPONSE

1. **Flow Measurement** – Accurate flow measurement is a fundamental and integral aspect of wastewater treatment and reporting. The current usage of the “AF” Code, for an inundated sampling site does not accurately depict the wastewater effluent flow. Reporting the flow numbers during high flow would artificially inflate the flow volume due to the backup into the flow measurement flume. An alternate means to accurately report discharge flow during high flows needs to be determined. Provide a plan for accurately reporting high flows. If additional study is required, provide a schedule for completing such a study.
2. **Weir Adjustment** – The weirs on clarifiers 11 and 12 need to be adjusted to provide equal distribution of flow. Provide a schedule for adjusting the weirs on these clarifiers.
3. **Logbook** – Implement the operator log book as per OAC 3745-7-09.
4. **I/I removal** – Provide an update on measures taken to eliminate storm water from the collection system and future plans and budgeting for I/I removal.
5. **Unsewered Areas** – Provide an update on providing service to those areas previously discussed.

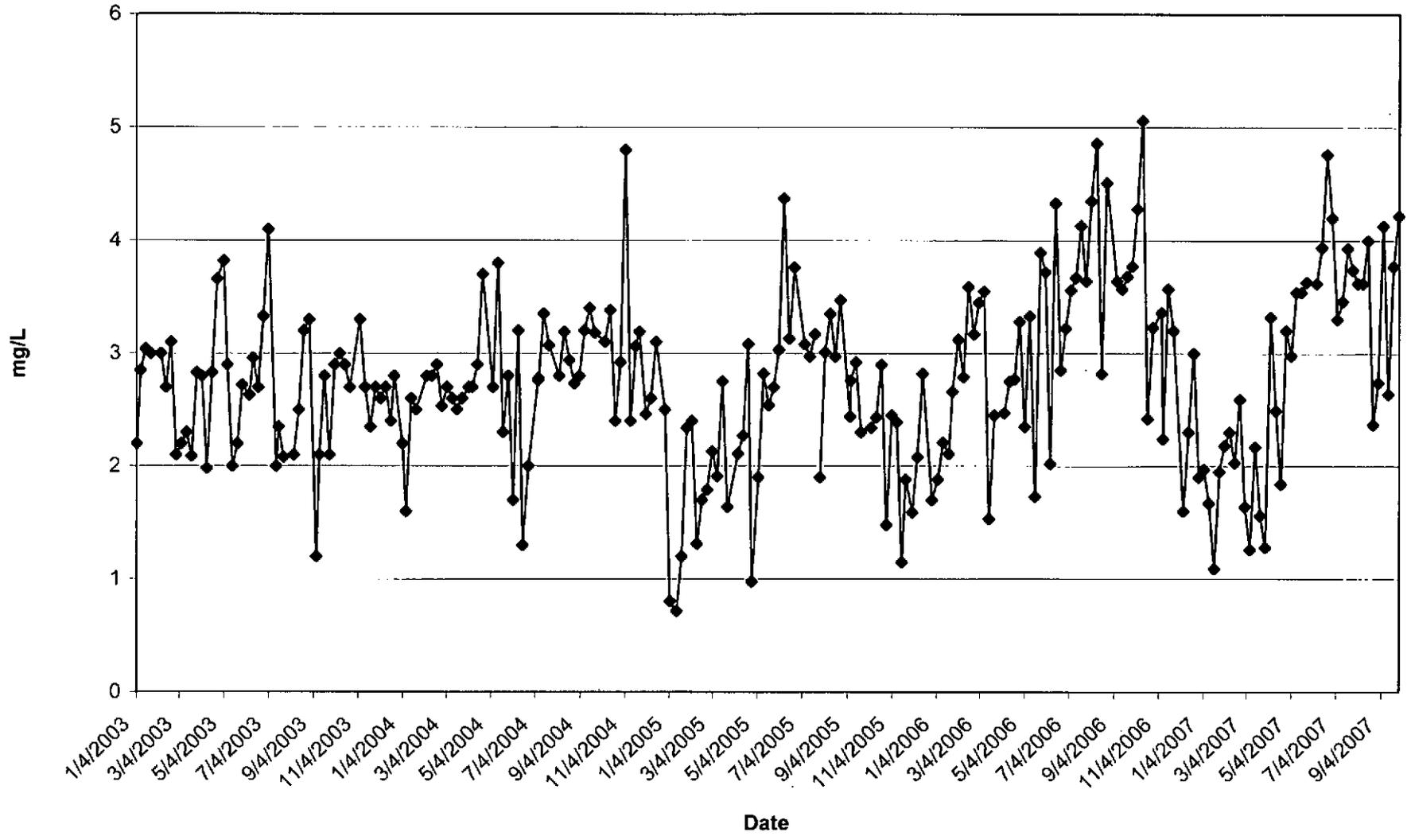


Greenville Effluent Flow (MGD) January 2003 to September 2007





Greenville WWTP Total Phosphorus January 2003 to September 2007





**Recordkeeping requirements and responsibilities of a certified operator.**

- (A) The owner and operator of record of a public water system, treatment works or sewerage system shall maintain or cause to be maintained operation and maintenance records for each public water system, water treatment plant within a public water system, treatment works, or wastewater treatment facility within a treatment works. Some of the formats in which the records may be maintained include, but are not limited to, hard bound books with consecutive page numbering, time cards, separate operation and maintenance records, or well organized computer logs.
- (1) The records shall be housed and maintained in such a manner as to be protected from weather damage and guarantee the authenticity and accuracy of the records contained within.
  - (2) The records shall be accessible onsite for twenty-four hour inspection by agency or emergency response personnel.
  - (3) At a minimum, the following information shall be recorded:
    - (a) Identification of the public water system, sewerage system, or treatment works;
    - (b) Date and times of arrival and departure for the operator of record and any other operator required by this chapter;
    - (c) Specific operation and maintenance activities that affect or have the potential to affect the quality or quantity of sewage or water conveyed, effluent or water produced;
    - (d) Results of tests performed and samples taken, unless documented on a laboratory sheet;
    - (e) Performance of preventative maintenance and repairs or requests for repair of the equipment that affect or have the potential to affect the quality or quantity of sewage or water conveyed, effluent or water produced; and
    - (f) Identification of the persons making entries.
  - (4) The records shall be kept up to date, contain a minimum of the previous three months of data at all times, and be maintained for at least three years.



(B) A certified operator shall:

- (1) Perform their duties in a responsible and professional manner consistent with standard operating procedures and best management practices;
- (2) Operate and maintain public water systems, sewerage systems, treatment works, and appurtenances so as not to endanger the health or safety of persons working in or around the facility, the public at large, or the environment due to negligence or incompetence; and
- (3) Report all instances of noncompliance with applicable regulations to the operator of record or facility supervisor.

(C) The duties of an operator of record shall include, but not be limited to, those outlined in paragraphs (B)(1) to (B)(3) of this rule and the following additional duties and responsibilities:

- (1) Responsible and effective on site management and supervision of the technical operation of the public water system, treatment works, or sewerage system;
- (2) Immediately notifying the permittee or owner of a public water system, sewerage system, or treatment works, and ensuring the agency and, if applicable, the local regulatory agency, is notified of items that require notification in accordance with sections 6109. or 6111. of the Revised Code, the rules adopted thereunder, or the facility's NPDES permit; and

(D) In the event that there are issues related to paragraphs (A) to (C) of this rule that are within the area of responsibility of, but beyond an operator of record or a certified operator's ability to address, it shall be the operator's responsibility to document any efforts to rectify the problem.

Effective: 12/21/2006

R.C. 119.032 review dates: 12/21/2011

Promulgated Under: 119.03

Statutory Authority: RC Sections 6111.46, 6109.04

Rule Amplifies: RC Sections 6111.46, 6109.04

