Ohio | Environmental Protection Agency

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

December 2, 2011

Mayor and Council
Village of Laura
P.O. Box 202
Laura, OH 45337

RE: Compliance Evaluation Inspection (CEI)
NOTICE OF VIOLATION
Village of Laura Wastewater Treatment System
NPDES Permit # 1PB00045*CD/OH0122704

Ladies and Gentlemen:

On November 18, 2011, I conducted an evaluation of the Laura wastewater treatment facility and collection system. At the time of inspection, Travis Gibbons represented the municipality. A review of the wastewater laboratory was also conducted.

During the inspection, items were identified that require improvement. These items are discussed in detail in the attached inspection report. Overall, the facility was rated as "Marginal".

A response to this inspection report is requested. Provide a response to the items listed under the heading "Items Requiring a Response by **December 21, 2011**. Should you have any questions, I can be reached at (937) 285-6109 or joe.miller@epa.state.oh.us.

Sincerely,

Joe Miller
Division of Surface Water

ec: Travis Gibbons, Operator

Southwest District Office
401 East Fifth Street
Dayton, OH 45402-2911

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Laura Wastewater Treatment Facility
Compliance Evaluation Inspection (CEI)
November 18, 2011

Overview

The Village of Laura wastewater treatment plant receives wastewater from approximately 500 residents. Individual properties have plastic septic tanks that discharge to small diameter sewers. The wastewater collection system carries flow to the influent lift station at the wastewater treatment plant.

The wastewater treatment plant installed in 1991 consists of the following treatment units: bar screen, extended aeration, clarification, upflow media filters, slow surface sand filters, ultraviolet disinfection, sludge holding. The treatment plant has an average design flow of 60,000 gallons per day and discharges to Hog Run, at tributary of Ludlow Creek. The reported average daily flow from May 2010 to October 2011 was 13,120 gallons per day.

The Laura wastewater treatment facility has historically operated well during dry conditions; however, storm events have proven problematic. Heavy flows from storm events have resulted in washout of solids in the aeration tank, clogged upflow filters and slow surface sand filters, and effluent violations.

Operator of Record

Travis Gibbons was hired as the Laura Wastewater Superintendent in May 2011. Travis has Wastewater I Certification and has submitted the Operator of Record notification form.

Effluent Violations

Village of Laura Effluent Limitation Violations May 2010 to October 2011

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
September 2011	Nitrogen, Ammonia (NH3)	30D Conc	4.0	5.9	9/1/2011
September 2011	Nitrogen, Ammonia (NH3)	30D Qty	0.9	1.17	9/1/2011
September 2011	Nitrogen, Ammonia (NH3)	7D Conc	6.0	11.5	9/8/2011
September 2011	Nitrogen, Ammonia (NH3)	7D Qty	1.4	2.31	9/8/2011

Detection Limit Reporting

When testing results are less than the method detection limit, report the result as "AA" and provide the detection limit in the notes.

Infiltration and Inflow

NPDES permit 1PB00045*CD includes a Schedule of Compliance for Infiltration and Inflow removal. This Compliance Schedule requires all work to eliminate collection system overflows be fully completed by July 2010. The Compliance Schedule also requires the Village of Laura to submit quarterly reports to the Southwest District Office detailing progress towards meeting this requirement. Neither of these compliance items has been satisfactorily addressed.

The ability to convert the wastewater plant to contact stabilization (storm) mode has been lost with the failure to maintain the equipment. Without the ability to switch to contact stabilization mode during storm flow conditions, washout of solids will occur resulting in effluent violations and time lost for correction/cleanup. In order to prevent washout of the wastewater plant, the contact stabilization equipment needs to be repaired.

Equalization of flow is highly recommended to prevent excessive I/I that plagues the collection system from creating problems at the treatment plant.

Reinstate the quarterly reports detailing the infiltration and inflow removal work completed and planned for the collection system.

Stream Flow

When high stream flow occurs in Hog Run, backups in the effluent pipe result in erroneous flow readings. Investigate a means for correction (flapgate, duckbill, effluent pumping, etc.).

NPDES Permit Renewal

Please note that the current NPDES permit expires on June 30, 2012. The application for renewal of the permit is required to be submitted 180 days prior to expiration.

ITEMS REQUIRING A RESPONSE

1. **Effluent Violations** – Provide an explanation for the ammonia violations and the efforts being taken to avoid future incidences.

2. **Contact Stabilization/Storm Mode** – Repair the contact stabilization equipment to avoid wastewater plant washout. In addition, provide a plan for how storm mode will be implemented.

3. **Inflow and Infiltration** – Provide a report detailing efforts to address the Schedule of Compliance for infiltration and inflow elimination. Subsequently,

provide the quarterly updates required by the Schedule. Include allocated funding for I/I removal projects.

4. **Sand filters** – Clear the vegetative growth and sludge solids from the sand filters.

5. **Upflow filters** – Remove sludge from the upflow filters.

Permit # : 1PB00045*CD
NPDES #: OH0112704

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**
1PB00045*CD	OH0112704	11/18/2011	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
Village of Laura WWTP 505 South Main Street Laura, OH 45337	1:05 PM	7/1/2007
	Exit Time	**Permit Expiration Date**
	3:00 PM	6/30/2012
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
Travis Gibbons, Wastewater Superintendent	937-621-3015	
Name, Address and Title of Responsible Official	**Phone Number**	
Mayor and Council Village of Laura P.O. Box 202 Laura, OH 45337	(937) 947-1050	

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

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

Inspector	Reviewer
12/2/11	12/2/11
Joe Miller — Date Division of Surface Water Southwest District Office	Martyn Burt — Date Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Permit # : 1PB00045*CD
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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) Flows and loadings conform with NPDES permit.....	N
(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 in permit.....	Y
(f) Storm water discharges properly permitted.....	N/A

Comments/Status:

Heavy storm flows exceed capacity of treatment plant.

Section F: Compliance

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

Comments/Status:

Compliance Schedule for Infiltration and Inflow reduction includes requirements for identification, elimination, and quarterly reporting of I/I activities.

Nitrogen-Ammonia effluent limitations were exceeded in September 2011.

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.....

Entire wastewater facility.

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

1/week free; 1/month under load

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

Main lift station
High water in upflow filters
Process blowers

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

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

Schedule routine maintainance

(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:

Alarm conditions sent via autodialer

Remove sludge from upflow filter tanks

Clean sand filters

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)

Log book needs to be bound with numbered pages.

(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)... N
  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

Comments/Status:

Report effluent limitation violations or overflows as per Part III, Item 12 of the NPDES permit.

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.....1
  ii. How many pump stations have telemetered alarms.....1
  iii. How many pump stations have operable alarms.....1

(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
if so, what is the LTCP status.....

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

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

Comments/Status:

Provide an update on infiltration and inflow reduction efforts and planning. The NPDES permit includes a Schedule of Compliance requiring quarterly reports regarding I/I efforts.

Frequency of septic tank pumping determined by number of occupants per household. Pumping is then assigned frequencies of 2, 3, 5, or 6 years. Donnie Smith contracts with the Village to do tank pumping.

200 cleanout caps being added/replaced on the private laterals.

Residential water use is not metered. Metering is recommended.

No I/I currently budgeted for upcoming year. Failure to meet the requirements of Compliance Schedule for I/I elimination is grounds for enforcement action.

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Section H: Sludge Management

(a) Method of Sludge Disposal…

- ☐ Land Application
- ☒ Haul to Another NPDES Permitee
- ☐ 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)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – High pH and High Temperature (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Other Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 4 – Unknown Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Composting (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Drying (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Treatment (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Thermophilic Aerobic Digestion (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Beta Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Gamma ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Pasteurization (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 6 - Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐

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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)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Aerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Air Drying (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Anaerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Composting (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Lime Treatment (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(b) Has amount of sludge generated changed significantly since the last inspection..... N

(c) How much sludge storage is provided at the plant.....

6,000 gallons

(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

(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.....

Septage hauling - Donnie Smith

Comments/Status:

Sludge recently hauled to Fairborn, previously was hauled to New Madison. Currently evaluating options for future hauling. Include solids removed from sand filters in sludge reporting.

Section I: Self-Monitoring Program

Flow Measurement:

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

ultrasonic and weir

(b) Flow meter calibrated annually ..... Y
(Date of last calibration: 10/9/2010)

(c) 24-hour recording instruments operated and maintained..... Y

(d) Flow measurement equipment adequate to handle full range of flows..... Y

(e) All discharged flow is measured..... Y

Comments/Status:

Flow meter calibration scheduled for November 2011.

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:

Temperature, D.O., and pH analyzed in-house. No longer analyzing NH3.

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

(b) Do SOP's include the following if applicable..... N

- 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 know 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).. Y
(d) If alternate analytical procedures are used, proper approval has been obtained..... Y
(e) Analyses being performed more frequently than required by permit. Y
(f) If (e) is yes, are results in permittee's self-monitoring report..... Y
(g) Satisfactory calibration and maintenance of instruments/equipment. Y (see score from GLC page)
(h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: metals, TSS, COBD5, Fecal Coliform, Ammonia-Nitrogen

Lab name: MASI Laboratories

Comments/Status:

Develop SOPs for each analyzed parameter specific to the Laura laboratory.

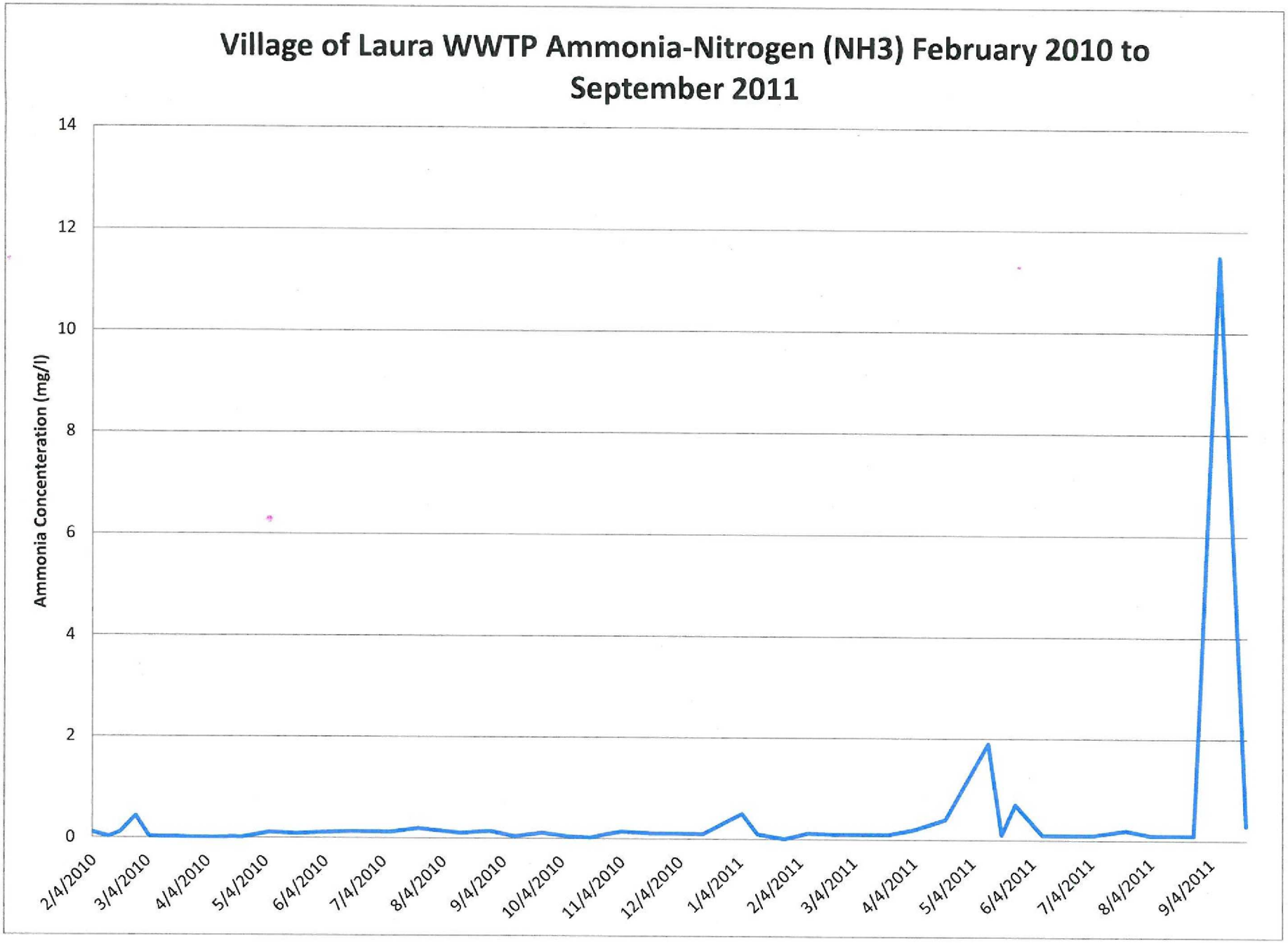
Section J: Effluent/Receiving Water Observations

Outfall # 001
Outfall Description: Headwall to Hog Run

Receiving Stream: Hog Run
Receiving Stream Description: Tributary of Ludlow Creek and subsequently the Stillwater River

Comments/Status:

Effluent clear, some algae, no solids deposition


Village of Laura WWTP Ammonia-Nitrogen (NH3) February 2010 to September 2011
Ammonia Concenteration (mg/l)
14
12
10
8
6
4
2
0
2/4/2010
3/4/2010
4/4/2010
5/4/2010
6/4/2010
7/4/2010
8/4/2010
9/4/2010
10/4/2010
11/4/2010
12/4/2010
1/4/2011
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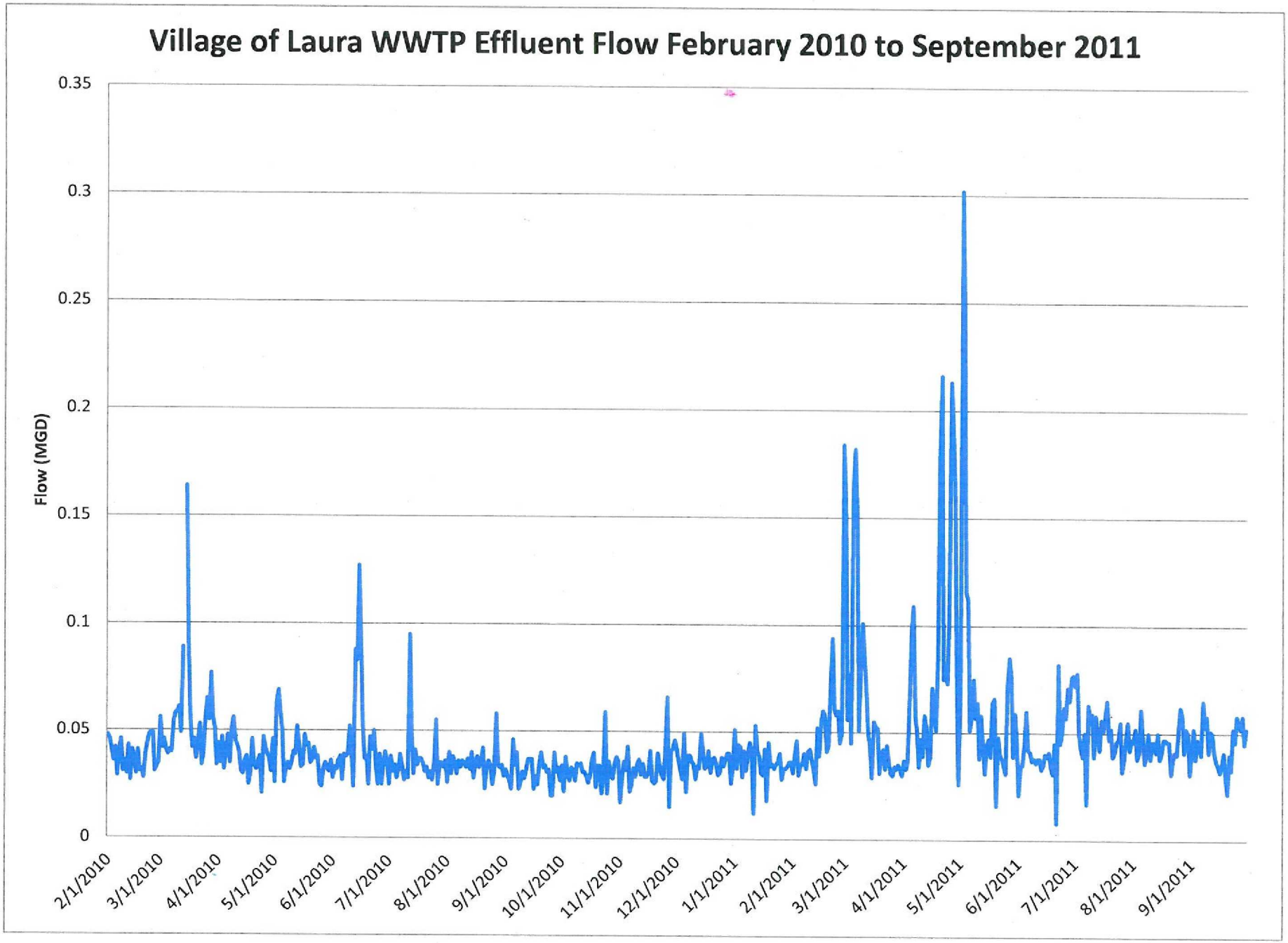
5/4/2011
6/4/2011
7/4/2011
8/4/2011
9/4/2011


Village of Laura WWTP Effluent Flow February 2010 to September 2011
Flow (MGD)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2/1/2010
3/1/2010
4/1/2010
5/1/2010
6/1/2010
7/1/2010
8/1/2010
9/1/2010
10/1/2010
11/1/2010
12/1/2010
1/1/2011
2/1/2011
3/1/2011
4/1/2011
5/1/2011
6/1/2011
7/1/2011
8/1/2011
9/1/2011