



John Kasich, Governor
Mike Taylor, Lt. Governor
Tom Malyk, Director

May 22, 2013

Knox County Commissioners
c/o Roger Reed, President
117 East High Street Suite 116
Mount Vernon, OH 43050

**Re: Little Jelloway Creek WWTP
NPDES Permit 4PJ00100/ OH0037117
Compliance Evaluation Inspection
Knox County**

Dear Mr. Reed:

On May 14, 2013, a Compliance Evaluation Inspection was conducted at the Little Jelloway Creek WWTP. Present for the inspection were Ray Withers representing the Knox County Water and Wastewater Department and myself of the Ohio EPA, Central District Office, Division of Surface Water.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your NPDES permit and to evaluate the operation and maintenance of the plant. One concern noted during the inspection was the recent and significant increase in the average daily flow at the plant. The plant operator indicated that a significant source of inflow recently developed in the collection system serving the plant since summer pool elevation was established in Apple Valley Lake. The plant operator intends to televise selected lines in the near future to identify and eliminate the source of infiltration. I would recommend that this investigation be pursued as soon as possible since the permitted loading limits are based on a plant design flow of 900,000 gpd.

I sincerely appreciate the commitment the County has made in undertaking the upgrade of the Little Jelloway Creek Wastewater Treatment Plant to serve the citizens of Knox County and to improve water quality in Jelloway Creek.

Please refer to the Summary of Findings and Comments section of this report for additional information regarding the inspection. If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3848 or e-mail at mike.sapp@epa.state.oh.us.

Sincerely,

A handwritten signature in black ink that reads "Michael Sapp". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

Michael Sapp
Compliance and Enforcement Unit
Division of Surface Water
Central District Office

c: Ray Withers w/attachments

MS/hsm Jelloway Creek WWTP 13

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING

Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PJ00100	OH0037117	CFI	S	Public
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
5/14/2013	9:30 AM	11:45 AM	No	No

SECTION B: FACILITY DATA

Name and Location of Facility Inspected	Permit Effective Date
Little Jelloway Creek WWTP 12579 Howard/Danville Road Howard, Ohio 43028	2/1/2009
	Permit Expiration Date
	1/31/2014
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Ray Withers, Superintendent	
Name and Title of Responsible Official	Phone Number

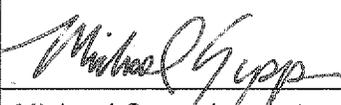
SECTION C: AREAS EVALUATED DURING INSPECTION

Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated

S	NPDES Compliance	
S	Operations & Maintenance	
S	Facility Site Review	
M	Collection System	Significant source of infiltration should be identified and eliminated.
S	Flow Measurement	
M	Receiving Waters	Effluent violations experienced with lagoons in service.
M	Laboratory	Please revise holding time for E. coli.

Comments:

Signatures

 5/17/13	 5/20/13
Michael Sapp, Inspector Compliance & Enforcement Division of Surface Water District Office	Erin Sherer, Reviewer Compliance & Enforcement Supervisor Division of Surface Water District Office

SECTION D: PERMIT VERIFICATION

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

Comments:

SECTION E: COMPLIANCE

- (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) Permittee is meeting compliance schedule Y*

Comments:

SECTION F: OPERATION AND MAINTENANCE

- (a) Standby power available Y*
If yes, what type? Diesel generator
- (b) Adequate alarm system available for power or equipment failures Y*
- (c) All treatment units in service other than backup units Y
- (d) Wastewater Treatment Works classification II
- (e) Operator of Record holds unexpired license of class required by Permit Y
Class held: III
- (f) Copy of certificate of Operator of Record displayed on-site Y
- (g) Minimum operator staffing requirements fulfilled Y*
- (h) Routine and preventative maintenance scheduled and 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 NA*
By MOR and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic or organic overloads since last inspection N

Comments:

SECTION G: RECORD KEEPING

- a) Log book provided Y
- b) Format of log book (i.e. computer log, hard bound book)
bound book
- c) Log book(s) kept onsite in an area protected from weather..... Y
- d) 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 operation and maintenance activities (including preventative maintenance, repairs and request for repairs) Y
 - iv) Laboratory results (unless documented on bench sheets) Y
 - v) Identification of person making log entries Y
- e) Has the Operator of Record submitted written notification to the permittee, Ohio EPA and any applicable local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred?... Y

Comments:

SECTION H: COLLECTION SYSTEM

- a) Percent combined system: 0%
- b) Any collection system overflows since last inspection Y*
CSO SSO X
- c) Regulatory agency notified of overflows Y
- d) CSO O&M plan provided and implemented..... NA
- e) CSOs monitored and reported in accordance with permit NA
- f) Portable pumps are used to relieve system..... N
- g) Lift station alarms provided and maintained Y*
- h) Lift stations equipped with permanent standby power or equivalent 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
- k) Are any portions of the sewer system at or near capacity N
- l) Are operations changed during high-flow events?..... N

Comments:

SECTION I: SLUDGE MANAGEMENT

- a) Sludge management plan (SMP) last audited by Ohio EPA:
Audit Date:
- b) Sludge adequately disposed Y*
Method: land application
- c) If sludge is incinerated, where is ash disposed of N
- d) Is sludge disposal contracted Y
Name: Burch Hydro
- e) Has amount of sludge generated changed significantly N
- f) Adequate sludge storage provided at plant Y*
- g) Records kept in accordance with State and Federal law Y
- h) Any complaints received last year regarding sludge Y
- i) Is sludge adequately processed (digestion, pathogen control)..... Y

Comments:

SECTION J: SELF-MONITORING PROGRAM

- a) Primary flow measuring device operated and maintained Y*
Type of device: magmeter Device location: effluent pipe before UV
- b) Calibration frequency adequate Y
Date of last calibration: April 2013
- c) Secondary instruments operated and maintained Y
- d) Flow measurements equipment adequate to handle full range of flows Y
- e) Actual flow discharged is measured Y
- f) Flow measuring equipment inspection frequency _____ weekiy _____
- g) Sampling location(s) are as specified by permit Y*
- h) Parameters and sampling frequency agree with permit..... Y
- i) 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:

SECTION K: Laboratory

- a) EPA applicable analytical testing procedures used (40 CFR 136.3) Y*
 - b) If alternate procedures are used, are they properly approved? Y
 - c) Analysis performed more frequently N/A
 If yes, are results recorded in permittee's report? N/A
 - d) Commercial laboratory used:
 Name: MASI
 Parameters analyzed: metals, Oil & Grease, phosphorus, NO₂ + NO₃
 CBOD₅, TSS ammonia (Only pH and DO performed in-house)
 - e) Quality assurance manual provided and maintained Y
 - f) Calibration and maintenance of instruments is satisfactory? Y
 - g) Results of last U.S. EPA quality assurance NA
- Date:

Comments:

SECTION L: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Yes	No	No	No	No	No	Clear	

Comments:

SECTION M: 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 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:

Compliance Data for Little Jelloway Creek WWTP between 4/1/2012 to 4/1/2013

Summary

Permit Effluent Limit Violations: 33
 Permit Effluent Code Violations: 2
 Permit Effluent Frequency Violations: 0
 Compliance Schedule Violations: 1
 Reported SSO Events: 7

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
May 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	4.6	6.985	5/1/2012
May 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	6.985	5/1/2012
May 2012	001	Nitrogen, Ammonia (NH3)	30D Qty	15.7	18.2820	5/1/2012
May 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	8.4	5/22/2012
May 2012	001	Nitrogen, Ammonia (NH3)	7D Qty	23.5	23.8990	5/22/2012
June 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	4.6	9.36375	6/1/2012
June 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	11.745	6/1/2012
June 2012	001	Nitrogen, Ammonia (NH3)	30D Qty	15.7	25.3287	6/1/2012
June 2012	001	Nitrogen, Ammonia (NH3)	7D Qty	23.5	30.3020	6/1/2012
June 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	8.4	6/8/2012
June 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	6.975	6/15/2012
June 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	10.335	6/22/2012
June 2012	001	Nitrogen, Ammonia (NH3)	7D Qty	23.5	27.3500	6/22/2012
July 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	4.6	13.2337	7/1/2012
July 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	14.4	7/1/2012
July 2012	001	Nitrogen, Ammonia (NH3)	30D Qty	15.7	36.3930	7/1/2012
July 2012	001	Nitrogen, Ammonia (NH3)	7D Qty	23.5	41.7544	7/1/2012
July 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	6.9	14.1	7/8/2012

July 2012	001	Nitrogen, Ammonia (NH3	7D Qty	23.5	38.7190	7/8/2012
July 2012	001	Nitrogen, Ammonia (NH3	7D Conc	6.9	15.55	7/15/2012
July 2012	001	Nitrogen, Ammonia (NH3	7D Qty	23.5	42.4858	7/15/2012
July 2012	001	Nitrogen, Ammonia (NH3	7D Conc	6.9	8.885	7/22/2012
August 2012	001	Nitrogen, Ammonia (NH3	7D Conc	6.9	6.935	8/1/2012
January 2013	001	Total Suspended Solids	30D Conc	12	15.625	1/1/2013
January 2013	001	Total Suspended Solids	7D Conc	18	21.5	1/1/2013
January 2013	001	CBOD 5 day	30D Conc	10	11.2857	1/1/2013
January 2013	001	CBOD 5 day	7D Conc	15	24.	1/1/2013
January 2013	001	Total Suspended Solids	7D Conc	18	21.	1/8/2013
January 2013	001	CBOD 5 day	7D Conc	15	16.	1/8/2013
March 2013	001	Total Suspended Solids	30D Conc	12	17.5	3/1/2013
March 2013	001	CBOD 5 day	30D Conc	10	11.	3/1/2013
March 2013	001	Total Suspended Solids	7D Conc	18	22.5	3/15/2013
March 2013	001	Total Suspended Solids	7D Conc	18	22.	3/22/2013

Code Violations				
Reporting Period	Station	Parameter	Reported Value	Violation Date
June 2012	001	Fecal Coliform	AK	6/1/2012
June 2012	001	Fecal Coliform	AK	6/20/2012

Missing Compliance Schedule Milestones					
Schedule Due Date	Completion Date	Event Code	Schedule Type	Schedule Milestone	Compliance Limits
February 2012		5699	Construction	Final Compliance	EF limits

Parameter	Units	Date	Reported Value
Overflow Occurrence	No./Month	7/1/2012	7

Flow Data for Little Jelloway Creek WWTP between 4/1/2012 and 4/1/2013

	Date	Flows (MGD)
Nine Highest Flows	5/8/2012	0.947
	5/2/2012	0.931
	2/27/2013	0.920
	5/3/2012	0.913
	5/9/2012	0.906
	10/29/2012	0.903
	5/7/2012	0.885
	6/20/2012	0.883
	7/5/2012	0.875
Average Flow Rate		0.625

ADDITIONAL INFORMATION
Jelloway Creek WWTP
4PJ00100 – OH0037117

The Jelloway Creek WWTP has a design treatment capacity of 0.9 mgd with a discharge to Jelloway Creek. Wet stream processes/equipment provided at the facility include influent fine screens, influent pumping, sequencing batch reactors, ultraviolet disinfection and post aeration. Solids handling facilities consist of aerobic digestion, dewatering with a centrifuge and an enclosed sludge storage area. The upgraded facility is also equipped with a separate aerated tank for septage receiving. The upgraded facility was placed into operation in April 2013.

Section D. - Permit Verification

- (b.) The plant now discharges to Jelloway Creek, instead of Little Jelloway Creek, following completion of the outfall relocation project in January 2012.
- (d.) The average daily flow at outfall 001, for the time period from April 2012-March 2013 was 0.625 mgd. The average daily flow appears to have increased significantly since the previous inspection was conducted in 2012. The average flow for the time period between March 2010 -2012 was 0.49 mgd.
- (f.) The upgraded facility was placed into operation and the partial mix treatment lagoons were taken off line in April 2013.

Section E. - Compliance

- (a.) The attached table contains a list of NPDES permit violations at outfall 001 since April 2012. The majority of the violations were for exceedances of ammonia concentration and loading limits. The upgraded facility is designed to provide an advanced level of treatment and it should facilitate compliance with final limits for ammonia.
- (c.) The effective NPDES permit contains a schedule with various milestones to relocate the plant outfall to Jelloway Creek on or before December 1, 2011 and to achieve compliance with final limits for ammonia, CBOD₅ and copper no later than February 1, 2012. The final milestone in the compliance schedule was satisfied when the upgraded facility was placed into operation in April 2013.
- (d.) The outfall relocation project was completed in January 2012, two months behind schedule. The plant upgrade was completed in April 2013.

Section F. - Operation and Maintenance

- (a.) The plant is now equipped with a diesel generator capable of providing back-up power to the entire plant.
- (b.) The plant is now equipped with a SCADA system which provides for alarms and remote monitoring. The influent pump station is not on the SCADA system.
- (g.) The plant is currently staffed on one shift 5 days a week with coverage/walk through on weekends.
- (l.) The plant does not typically experience hydraulic or organic surcharges although the current average flow of 0.850 suggest a new source of inflow and infiltration.

Section H. Collection System

- (g.) The collection system currently has 22 pump stations, 16 of which have some sort of alarm/telemetry installed. Six of the stations that are not telemetered are of the duplex variety and generally serve less than 10 homes. The three largest pump stations are Orchard Hills, Apple Valley I and Baldwin Heights. All lift stations undergo weekly inspections (Thursdays) which include testing of alarms.
- (h.) All 22 pump stations are equipped with some sort of audible or visual alarm; the telemetered stations call for service when one pump fails or a high level condition occurs. Portable generators can be hooked-up to the pump stations in the event of a power failure.
- (i.) The operator indicated that the average daily flow has increased significantly since the Apple Valley Lake recently established summer pool elevation. The plant operator suspects that a line near the lake is now submerged and is a significant source of infiltration. Collection crews will begin televising lines in the near future to locate this source.

Section I. - Sludge Management

- (b.) At the time of the inspection, Burch Hydro was hauling sludge from the old plant for land application.
- (f.) Three sludge digester will be provide when the plant upgrade is complete..

Section J. - Self Monitoring Program

- (a.) Both the influent and effluent flows are measured with magmeters. The influent flow meter captures centrate from the centrifuge and digester decant.

- (g.) Please place thermometers in the composite samplers to ensure that the temperature is maintained at or below 6°C.

Section K. - Laboratory

- (a.) Please be aware the the holding time for both fecal coliform and E. coli is 8 hours. The lab was under the assumption that the holding time was 30 hours based on information provided by MASI lab.

SUMMARY OF FINDINGS AND COMMENTS

1. At the time of the inspection, the following general observations were made with the operational practices at the plant:
 - The new SBR plant was seeded with sludge for the Village of Johnstown WWTP which is also an SBR plant.
 - The SBRs are equipped with continuous dissolved oxygen (DO) and MLSS probes. The dissolved oxygen meters are used to maintain a minimum DO level and calls for the use of the mixer or aeration blower based on the DO reading.
 - The MLSS at the time of the inspection was 980 mg/L. The operator was still building up solids inventories to get to the target MLSS of 2000-3000 mg/L.
 - The plant is designed to waste solids automatically to maintain target MLSS concentrations.
 - Each SBR goes through the following treatment sequence:

Cycle	Minutes
Mix Fill	45
React Fill (w/ blowers on)	99
React	45
Settle	45
Decant	45

Note: Storm mode involves simultaneous fill and decant modes without mixing or aeration.

2. The plant operator indicated that a significant source of inflow recently developed in the collection system serving the plant. In general, the average flow normally increases from 450,000 in the winter to 650,000 in the summer months. The current influent flow is 850,000 and the operator suspects the source of the additional flow is coming from a sewer line adjacent to the lake. The additional flow appears to coincided with the with establishment of summer pool elevation at Apple Valley Lake. The plant operator intends to televise selected lines in the near future to identify and eliminate the source of infiltration. I would recommend that this investigation be pursued as soon as possible since the permitted loading limits are based on a plant design flow of 900,000 gpd.

3. Based on the design flow of the plant and the final effluent limits it is likely that the classification of the plant (Class II) will not change when the NPDES permit is renewed in 2014.