



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

June 13, 2013

RE: GEAUGA COUNTY
TROYER WATER SYSTEM
NPDES #31Y00164

CERTIFIED MAIL

Mr. Robert Troyer, Owner
Troyer Water System
4131 Old State Road
Middlefield, OH 44062

Dear Mr. Troyer:

On May 30, 2013, this writer met with you and Tom Frank to conduct an inspection of the wastewater treatment system serving the above referenced facility. The intent of the inspection was to assess the operations and maintenance of the treatment system and review compliance with the National Pollutant Discharge Elimination System (NPDES) permit.

According to Agency records, a wastewater treatment system was installed under Ohio EPA PTI 657113, which was effective February 19, 2009. The wastewater treatment plant (WWTP) is permitted to discharge 1,450 gpd. The wastewater system includes a 24 x 48 foot conventional slow sand filter divided into two equal 576 ft² filters to treat backwash water from the water treatment system. The discharge is to a nearby swale.

Below are the findings and recommendations from the inspection:

INSPECTION SUMMARY

The inspection revealed the water treatment system was in operation and the wastewater treatment system was in operation and discharging what appeared to be a clear effluent. At the time of the inspection, the sand media did not appear to be Ohio EPA approved sand. The sand filters were covered with vegetation. It is understood the sand used in the filters was advertised as an Ohio EPA approved sand at the time of installation. It appears the sand is coarser and does not meet the following Ohio EPA sand media specifications: clean and washed with an effective size between 0.4 and 1.0 mm with a uniformity coefficient not greater than 3.0.

It is understood the sand is to be removed and replaced with sand which meets the above noted specifications. Some gravel may also be removed during the sand excavation. Please be sure any gravel or underdrains removed are replaced with like sized and quality materials. Any significant changes in materials and pipe sizing would require a PTI. See the enclosed Surface Sand Filter Section view for a plan and profile view of the surface sand filter gravel and underdrain schematic.

The dechlorination was found to be in satisfactory condition. The final outfall was found to be in satisfactory condition.

NPDES PERMIT COMPLIANCE

The wastewater treatment plant is experiencing significant total dissolved residual effluent violations (see attached violation summary). The plant is overloaded by the total dissolved residuals from the water treatment plant backwash water. This facility is currently listed in significant non compliance for the number of violations and the percentage over the effluent loadings.

At the time of the inspection, we discussed some alternate options that may be utilized to assist the system in addressing the total dissolved solids violations. This office was unable to locate another treatment system which would be similar to this facility. Most treatment systems have blending with other waste streams as a way to dilute the dissolved solids. Based on a review of your file, this office has the following recommended alternatives for the facility:

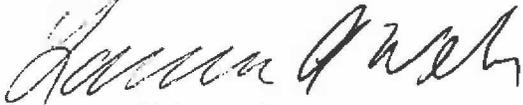
- 1) According to the discharge monitoring report data for the review period of January 1, 2012-May 1, 2013, the estimated flows are reported at 1,500 gpd every day. The facility is permitted to treat and discharge 1,450 gpd. The facility should look into how the effluent flow is estimated (backwash flow cycle, timer, etc). A more accurate measurement of the flow should be implemented to ensure the TDS loadings are calculated correctly.
- 2) You may request a higher TDS limit in your NPDES permit. This would involve an Antidegradation review, as the facility would be requesting a higher effluent loading for TDS than what is in the current NPDES permit. Information on NPDES permit renewals, modifications and antidegradation reviews can be found at the following link: <http://epa.ohio.gov/dsw/permits/individuals.aspx> and http://epa.ohio.gov/dsw/rules/antidegguide_2003.aspx.
- 3) Upon review of some lab reports, it appears the lab was running the TDS method 2540B which dries at a temperature of 104C. The TDS should be performed via method 2540C which dries at 180C. The testing under method 2540B could result in a slightly higher reading.

Your NPDES permit expires March 31, 2014. If you decide to request an increase in the TDS limits in your NPDES permit, this office recommends you submit the NPDES permit renewal application soon. This renewal application must include an antidegradation addendum and clearly state the TDS limit you are requesting.

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Should you have any comments or questions regarding this letter, please contact this office at (330) 963-1299.

Respectfully,



Laura A. Weber, P.E.
Environmental Engineer
Division of Surface Water

Enclosures: Violation Summary
Surface Sand Filter Schematic

cc: Frank Septic
Geauga County Health Department
Wayne County Health Department

File/Semi-Public/Wayne/MiltonTwp/CrownHillManor

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Discharge Monitoring Violations

Permit No	Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
3IY00164*AD	January 2012	001	00500	Residue, Total	1D Conc	150	258.	1/4/2012
3IY00164*AD	January 2012	001	00500	Residue, Total	1D Qty	0.824	1.4648	1/4/2012
3IY00164*AD	January 2012	001	00500	Residue, Total	1D Qty	0.824	.85163	1/18/2012
3IY00164*AD	February 2012	001	00978	Arsenic, Total Recover	1D Qty	0.0000	.00006	2/7/2012
3IY00164*AD	February 2012	001	00500	Residue, Total	1D Conc	150	284.	2/7/2012
3IY00164*AD	February 2012	001	00500	Residue, Total	1D Qty	0.824	1.61241	2/7/2012
3IY00164*AD	February 2012	001	00500	Residue, Total	1D Conc	150	310.	2/23/2012
3IY00164*AD	February 2012	001	00500	Residue, Total	1D Qty	0.824	1.76003	2/23/2012
3IY00164*AD	March 2012	001	00500	Residue, Total	1D Conc	150	270.	3/7/2012
3IY00164*AD	March 2012	001	00500	Residue, Total	1D Qty	0.824	1.53293	3/7/2012
3IY00164*AD	March 2012	001	00500	Residue, Total	1D Conc	150	294.	3/21/2012
3IY00164*AD	March 2012	001	00500	Residue, Total	1D Qty	0.824	1.66919	3/21/2012
3IY00164*AD	April 2012	001	00500	Residue, Total	1D Conc	150	278.	4/4/2012
3IY00164*AD	April 2012	001	00500	Residue, Total	1D Qty	0.824	1.57835	4/4/2012
3IY00164*AD	April 2012	001	00500	Residue, Total	1D Conc	150	340.	4/18/2012
3IY00164*AD	April 2012	001	00500	Residue, Total	1D Qty	0.824	1.93035	4/18/2012
3IY00164*AD	May 2012	001	00500	Residue, Total	1D Conc	150	184.	5/2/2012
3IY00164*AD	May 2012	001	00500	Residue, Total	1D Qty	0.824	1.04466	5/2/2012
3IY00164*AD	May 2012	001	00500	Residue, Total	1D Conc	150	307.	5/16/2012
3IY00164*AD	May 2012	001	00500	Residue, Total	1D Qty	0.824	1.74299	5/16/2012
3IY00164*AD	June 2012	001	00500	Residue, Total	1D Conc	150	246.	6/6/2012
3IY00164*AD	June 2012	001	00500	Residue, Total	1D Qty	0.824	1.39667	6/6/2012
3IY00164*AD	June 2012	001	00500	Residue, Total	1D Conc	150	380.	6/20/2012
3IY00164*AD	June 2012	001	00500	Residue, Total	1D Qty	0.824	2.15745	6/20/2012
3IY00164*AD	July 2012	001	00500	Residue, Total	1D Conc	150	552.	7/5/2012
3IY00164*AD	July 2012	001	00500	Residue, Total	1D Qty	0.824	3.13398	7/5/2012
3IY00164*AD	July 2012	001	00500	Residue, Total	1D Conc	150	336.	7/18/2012
3IY00164*AD	July 2012	001	00500	Residue, Total	1D Qty	0.824	1.90764	7/18/2012
3IY00164*AD	August 2012	001	00500	Residue, Total	1D Conc	150	1170.	8/2/2012
3IY00164*AD	August 2012	001	00500	Residue, Total	1D Qty	0.824	6.64268	8/2/2012
3IY00164*AD	August 2012	001	00500	Residue, Total	1D Conc	150	319.	8/17/2012
3IY00164*AD	August 2012	001	00500	Residue, Total	1D Qty	0.824	1.81112	8/17/2012
3IY00164*AD	September 2012	001	00500	Residue, Total	1D Conc	150	384.	9/5/2012
3IY00164*AD	September 2012	001	00500	Residue, Total	1D Qty	0.824	2.18016	9/5/2012
3IY00164*AD	September 2012	001	00500	Residue, Total	1D Conc	150	362.	9/19/2012
3IY00164*AD	September 2012	001	00500	Residue, Total	1D Qty	0.824	2.05526	9/19/2012
3IY00164*AD	October 2012	001	00500	Residue, Total	1D Conc	150	259.	10/17/2012
3IY00164*AD	October 2012	001	00500	Residue, Total	1D Qty	0.824	1.47047	10/17/2012
3IY00164*AD	November 2012	001	00978	Arsenic, Total Recover	1D Qty	0.0000	.00006	11/7/2012
3IY00164*AD	November 2012	001	00500	Residue, Total	1D Conc	150	310.	11/7/2012
3IY00164*AD	November 2012	001	00500	Residue, Total	1D Qty	0.824	1.76003	11/7/2012

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3IY00164*AD	November 2012	001	00500	Residue, Total	1D Conc	150	334.	11/21/2012
3IY00164*AD	November 2012	001	00500	Residue, Total	1D Qty	0.824	1.89629	11/21/2012
3IY00164*AD	December 2012	001	00500	Residue, Total	1D Conc	150	297.	12/5/2012
3IY00164*AD	December 2012	001	00500	Residue, Total	1D Qty	0.824	1.68622	12/5/2012
3IY00164*AD	December 2012	001	00500	Residue, Total	1D Conc	150	314.	12/19/2012
3IY00164*AD	December 2012	001	00500	Residue, Total	1D Qty	0.824	1.78274	12/19/2012
3IY00164*AD	January 2013	001	00978	Arsenic, Total Recover	1D Qty	0.0000	.00006	1/2/2013
3IY00164*AD	January 2013	001	00500	Residue, Total	1D Conc	150	524.	1/2/2013
3IY00164*AD	January 2013	001	00500	Residue, Total	1D Qty	0.824	2.97501	1/2/2013
3IY00164*AD	January 2013	001	00500	Residue, Total	1D Conc	150	316.	1/16/2013
3IY00164*AD	January 2013	001	00500	Residue, Total	1D Qty	0.824	1.79409	1/16/2013
3IY00164*AD	February 2013	001	00500	Residue, Total	1D Conc	150	363	2/6/2013
3IY00164*AD	February 2013	001	00500	Residue, Total	1D Qty	0.824	2.06093	2/6/2013
3IY00164*AD	February 2013	001	00500	Residue, Total	1D Conc	150	282.	2/20/2013
3IY00164*AD	February 2013	001	00500	Residue, Total	1D Qty	0.824	1.60106	2/20/2013
3IY00164*AD	March 2013	001	00500	Residue, Total	1D Conc	150	290.	3/3/2013
3IY00164*AD	March 2013	001	00500	Residue, Total	1D Qty	0.824	1.64648	3/3/2013
3IY00164*AD	March 2013	001	00500	Residue, Total	1D Conc	150	250.	3/20/2013
3IY00164*AD	March 2013	001	00500	Residue, Total	1D Qty	0.824	1.41938	3/20/2013
3IY00164*AD	May 2013	001	00500	Residue, Total	1D Conc	150	355.	5/2/2013
3IY00164*AD	May 2013	001	00500	Residue, Total	1D Qty	0.824	2.01551	5/2/2013
3IY00164*AD	May 2013	001	00500	Residue, Total	1D Conc	150	269.	5/15/2013
3IY00164*AD	May 2013	001	00500	Residue, Total	1D Qty	0.824	1.52725	5/15/2013

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City, State, ZIP+4		

PS Form 3800, August 2006 See Reverse for Instructions

#1
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<ul style="list-style-type: none"> Complete Items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee <i>Robert Troyer</i></p> <p>B. Received by (Printed Name) <i>Robt Troyer</i></p> <p>C. Date of Delivery <i>7-5-13</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p>Mr. Robert Troyer, Owner Troyer Water System 14131 Old State Road Middlefield, OH 44062</p>	<p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>
<p>2. Article Number (Transfer from service label) <i>7012 1010 0002 2260 1618</i></p>	<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>PS Form 3811, February 2004 Domestic Return Receipt <i>7-2-13</i> 102595-02-M-1540 <i>DSW</i></p>	

#2
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